NASA engineers use high-tech gear to examine Discovery. PAGE 10

FRANKLY SPEAKING

Medicare's giveaway of an EHR app could reinvent the health records software business, says Frank Hayes. PAGE 46


# COMPUTERWORLD

THE VOICE OF IT MANAGEMENT ■ WWW.COMPUTERWORLD.COM

AUGUST 1, 2005 ■ VOL. 39 ■ NO. 31 ■ $5/COPY


## Dispute Over Cisco Flaw Sparks Criticism, Debate

### Vendor muzzles researcher after initial router exploit disclosure

BY JAIKUMAR VIJAYAN

Cisco Systems Inc.'s attempts last week to stop an IT security researcher from discussing a hack into its router software evoked criticism from some users and analysts, along with calls for more information from the vendor about the issues surrounding the flaw.

The dispute between Cisco and the researcher also reignited the debate on responsible practices for disclosing vulnerabilities and how vendors should respond to security problems.

The controversy erupted after Michael Lynn, who until last week worked at Internet Security Systems Inc., made a presentation at the Black Hat USA conference in Las Vegas. Lynn detailed a way to shut down a Cisco router by taking advantage of a known and already patched flaw in the vendor's Internetworking Operating System software.

Both Cisco and Atlanta-based ISS tried to stop Lynn from giving the presentation and even compelled Black Hat's organizers to destroy CDs and rip out more than 30 pages containing Lynn's slides from thousands of copies of

*Cisco Flaw, page 14*

**ONLINE**

Read more IT security coverage at our Web site:
**QuickLink k1600**

## Delays, Added Costs Threaten University's ERP Apps Rollout

### Project management, testing cited as issues

BY MARC L. SONGINI

After having missed a go-live date in April because of problems in project management, software testing and other areas, the University of Wisconsin is reassessing an over-budget ERP rollout that has so far cost it $25 million.

The university was working to install human resources, payroll and benefits management applications from Lawson Software Inc. to replace a 30-year-old mainframe system, with an eye on cost savings and improved ease of use. But active work on the project was effectively put on hold in

*ERP Rollout, page 45*

## FDIC Warns Finance Firms On Spyware

### Some IT managers say they're already taking precautions

BY LUCAS MEARIAN

Spyware is being recognized as a major security threat across the financial services industry, prompting warnings from the Federal Deposit Insurance Corp. and analysts about the risks posed by the information-seeking software.

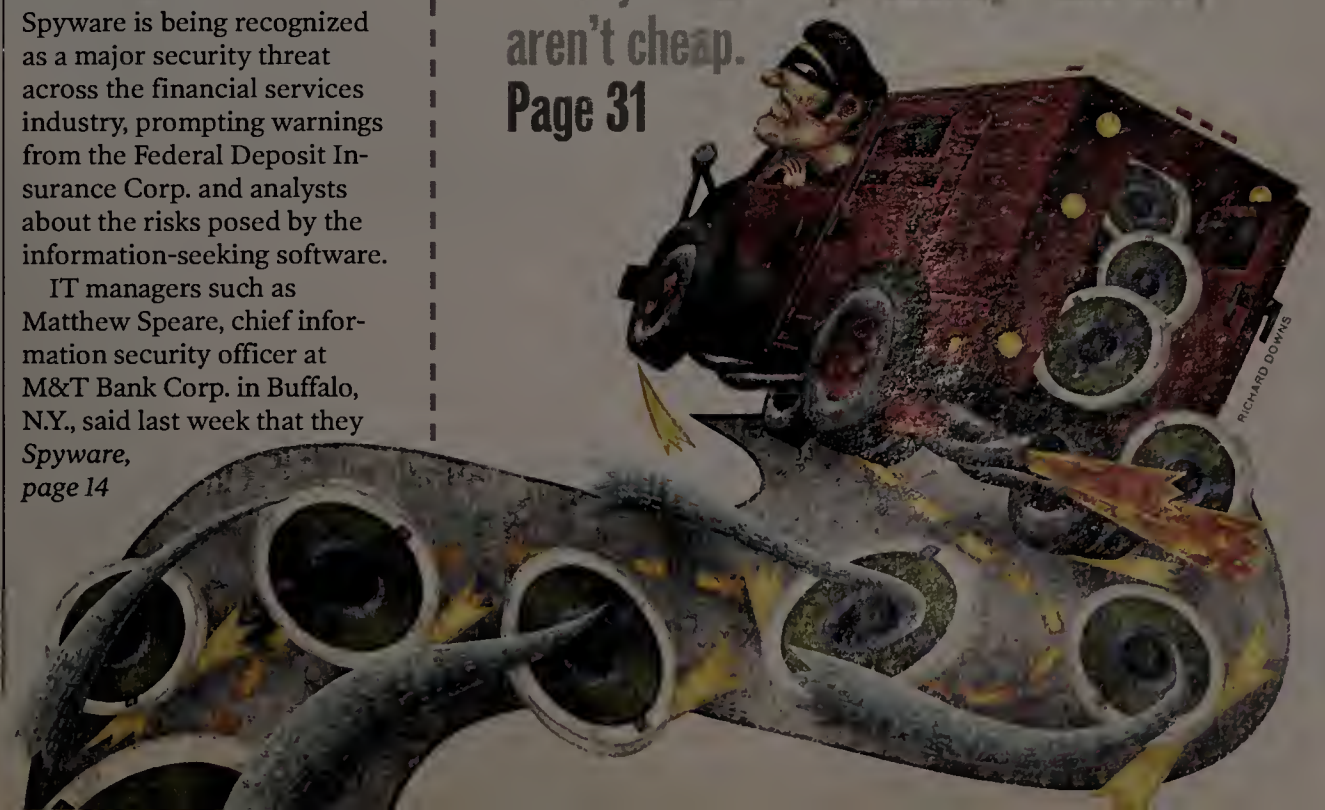
IT managers such as Matthew Speare, chief information security officer at M&T Bank Corp. in Buffalo, N.Y., said last week that they

*Spyware, page 14*

## LOST, STOLEN OR STRAYED

The mundane task of transporting computer tapes to storage facilities is suddenly a hot topic, after some highly publicized mishaps. Gary H. Anthes reports on ways to beef up security – and they aren't cheap.

Page 31




NEWSPAPER

Your potential. Our passion.
Microsoft

[redacted]

NAME

Mr. 50,000 Global Remote and Mobile Users Connected Without a VPN.

NISSAN

Microsoft ... logo, Windows ... names of actual co... y be ... Our ...

"At Nissan, we expect to save at least $135 million annually thanks to the efficiencies that Windows Server 2003 and Exchange Server 2003 are helping us achieve."

**Toshihiko Suda**
Senior Manager, *Nissan Motor Company, Ltd.*

**Make a name for yourself with Windows Server System.** An upgrade to Microsoft Windows Server System made it possible for 50,000 worldwide employees at Nissan Motor Company to have more secure remote access to their e-mail and calendars from any Internet connection, without the hassle and expense of a VPN. Here's how: By deploying Windows Server 2003 and Exchange 2003, not only did Nissan IT meet the CEO's demand for better global collaboration, they expect to save at least $135 million by streamlining their messaging infrastructure. To get the full Nissan story or find a Microsoft Certified Partner, go to **microsoft.com/wssystem**

Microsoft® Windows Server System™

| Windows Server System™ includes: | |
|---|---|
| Server Platform | Windows Server™ |
| Virtualization | Virtual Server |
| Data Management & Analysis | SQL Server™ |
| Communications | Exchange Server |
| Portals & Collaboration | Office SharePoint® Portal Server |
| Integration | BizTalk® Server |
| Management | Systems Management Server |
| | Microsoft® Operations Manager |
| Security | Internet Security & Acceleration Server |

**Plus other software products**

# WE MAKE IT WORK

## FOR THE MOBILE WORKFORCE

Connect to the people and information that count with Insight. As one of the world's largest providers of IT products and services, Insight offers leading-edge mobility technologies with the technical know-how, advanced services and financing to put your ambitious IT goals within reach. Insight can equip your mobile workforce with the all-new ThinkPad T43 with integrated fingerprint reader and Access Connections that let you switch effortlessly between available wired and wireless networks. Find out how Insight can minimize the steps of implementing a mobile solution.

### CASE STUDY:
### Fueling Field Productivity

A growing insurance company wanted to mobilize its field agents without putting its IT staff into overdrive. Insight configured, activated and tested mobile aircards and shipped them to each user with simple-to-follow instructions. Out of the box and into their notebooks, agents received customized aircards that were ready for business. The end result: A successful mobile mission accomplished in record speed.

**ThinkPad® T43**
**Starting at $1,429.99** 1875D6U

ThinkPad®

lenovo Business Partner

Insight®

IT For The Way You Work

**www.insight.com/CW ▼ 800.998.8052**

Source Code: AD021

Insight and the Insight logo are registered trademarks of Insight Direct USA, Inc. IT For The Way You Work is a trademark of Insight Direct USA, Inc. All other trademarks, registered trademarks, photos, logos and illustrations are property of their respective owners.
©2005 Insight Direct USA, Inc. All rights reserved.

# CONTENTS

08.01.05

## BPO: Big Political Opportunity

**In the Management section:** CIOs have the comprehensive view, process know-how and experience to take the lead in business process outsourcing, say IT leaders such as Emcor's Peter Baker. Here's how to do it — and why you should. **Page 33**

## Healing Power

**In the Technology section:** Intelligent sensors, demand response systems and other emerging technologies could be components of a self-healing electric grid that's expected to be developed over the next five to 10 years. **Page 21**

## NEWS


**6 Microsoft releases** the first beta of its Windows Vista client, which will include tools for software image installs and user account protection.

**7 Big-iron managers** continue to fret about a looming shortage of mainframe experts.

**10 NASA is using** new high-tech equipment to examine the space shuttle *Discovery* for signs of potential damage.

**10 The Defense Department** has made little progress on an enterprise IT architecture, despite spending four years and $318 million on the project, according to a GAO report.

**11 Feuding vendors** bury the hatchet and agree to work together on the proposed 802.11n Wi-Fi standard.

**12 Global Dispatches:** A video monitoring system developed by a Japanese company could aid in security screenings; and India's Wipro loses its third executive in two months.

**12 GM adopts** Sun's middleware stack in a deal aimed at simplifying the automaker's software licensing burdens.

**13 The Chicago public school** system uses hosted IT governance to support more schools on a limited budget.

**45 Q&A: New software-licensing** models haven't caught on, despite IT executives' desire for more-flexible terms, says PwC consultant David Marston.


## TECHNOLOGY


**25 Future Watch: Thanks for the (Future) Memories.** Technologies now in research labs could eventually replace conventional computer memory architectures. One possibility: do-everything memories.

**28 Geek's Garden:** Check out our new feature. It's a a collection of news and curiosities from the world of IT, with a little historical perspective included in the mix.

**29 Security Manager's Journal: User's End Run Around VPN Leads to New Push.** A worm crawls into the network when the VPN is accessed improperly. Mathias Thurman now has to figure out how to avoid a repeat of the disaster.


## MANAGEMENT


**31 Lost, Stolen or Strayed.** The most advanced backup and storage strategies are only as strong as your weakest human and logistical links. Here's what you can do about it.

**36 Think Tank:** IT executives need to prepare for a world where RFID chips can be used to track food ingredients, fruit, shopping carts, soldiers, construction tools and gambling chips.

**37 Career Watch:** HP CIO Gilles Bouchard advises readers on pursuing training and getting that first IT job. Plus, learn who really loves the IT department. And is offshoring as prevalent as most people think?


## OPINIONS


**8 On the Mark: Mark Hall** reports that Intel has warned developers to be careful when debugging multithreaded applications. And its new compilers are designed to help you do it right on servers built around dual-core processors.

**16 Don Tennant** thinks Microsoft's maniacal protection of its own trademarks makes it doubly unacceptable for it to run roughshod over the trademarks of other companies.

**16 Bruce A. Stewart** has noticed that the most effective IT achievers aren't surrounded by users who don't "get" it.

**17 Thornton A. May** offers advice for IT workers experiencing "job shock."

**30 Douglas Schweitzer** celebrates a happy second anniversary as a Macintosh user.

**40 Paul Glen** has suggestions for dealing with committees that won't die.

**46 Frankly Speaking: Frank Hayes** suggests that a 1980s taxpayer-funded VA software project might help create a de facto electronic health records standard.


### DEPARTMENTS/RESOURCES


At Deadline Briefs ..... 6
News Briefs ..... 8, 10
Letters ..... 17
IT Careers ..... 42
Company Index ..... 44
How to Contact CW ..... 44
Shark Tank ..... 46


## ONLINE

WWW.COMPUTERWORLD.COM

### Cool Sites

Are you in a Web surfing rut? Check out some of these favorites from *Computerworld* staffers, and freshen up those bookmarks! **QuickLink a5800**

### The Billion-Dollar Storage Error

**IT MANAGEMENT:** Cataphora's Elizabeth Charnock has advice for keeping your company from being caught in a legal dilemma over archived data. **QuickLink 55681**

### How to Safeguard Offshore Data

**SECURITY:** Paul Henry of CyberGuard returns from visiting overseas facilities with advice about how to secure outsourcing operations abroad, including tips on protecting customer data. **QuickLink 55699**

### Lock Down That Mac

**MACINTOSH:** Security should always be on the minds of systems administrators, says columnist Ryan Faas, who takes a look at physical security and discusses ways to lock down your workstation — and the data on it. **QuickLink 55694**

### Blogs and Blogwatch

*Computerworld* editors and IT professionals blog every day, offering opinions, tips, commentary and more. Don't know where to start with blogs? Don't have enough time to sort through them? Every morning, IT Blogwatch identifies the best new *Computerworld* blog posts as well as others around the Net. **QuickLink a5930**

**What's a QuickLink?**

Throughout each issue of *Computerworld*, you'll see five-digit QuickLink codes pointing to related content on our Web site. Also, at the end of each story, a QuickLink to that story online facilitates sharing it with colleagues. Just enter any of those codes into the QuickLink box, which is at the top of every page on our site.

**ONLINE DEPARTMENTS**

Breaking News
**QuickLink a1510**

Newsletter Subscriptions
**QuickLink a1430**

Knowledge Centers
**QuickLink a2570**

The Online Store
**QuickLink a2420**

AT DEADLINE

## Sybase to Acquire DB, Mobile Vendor

**Looking to improve its market position in Europe, Sybase Inc. said Friday that it has agreed to buy Extended Systems Inc., a vendor that focuses on database and mobile-access technology. Sybase will pay $71.3 million for Extended Systems, which will be integrated into its iAnywhere unit. The deal is expected to be completed in the fourth quarter.**

## Microsoft Wins Round With Google

**A county court judge in Seattle granted Microsoft Corp. a restraining order that prevents a former employee in China from doing competing work at Google Inc. Microsoft is suing to prevent Kai-Fu Lee, who formerly ran its Beijing research center, from helping Google to counter its search engine strategy. Google downplayed the order, saying it never intended for Lee to work in direct competition with Microsoft.**

## Sun Says It Plans To Cut 1,000 Jobs

**Sun Microsystems Inc.'s chief financial officer said the company plans to lay off about 1,000 workers as part of its ongoing cost-cutting strategy. CFO Steve McGowan disclosed the planned layoffs during a conference call on Sun's fourth-quarter financial results. But he didn't say what operations would be affected at the company, which currently has about 31,000 employees.**

## Lenovo Seeks Lead In Supercomputing

**Lenovo Group Ltd., the Beijing-based vendor that bought IBM's PC operations, said it's working on a supercomputer that would be nearly 10 times faster than existing systems. The system will perform up to 1,000 TFLOPS and should be ready between 2006 and 2010, Lenovo said.**

# Microsoft Issues OS Betas, Details More Features for IT

### Vista to include tools for software image installs, user account protection

BY CAROL SLIWA

MICROSOFT CORP. last week released the first beta copy of its recently christened Windows Vista client operating system, as well as a test version of its next server operating system.

But only corporate users who are members of Microsoft's MSDN development program, TechNet or Windows Vista Technical Beta Program will be able to download the early releases of the client operating system. The Windows Server beta, which is still code-named Longhorn, is available to Technical Beta Program participants.

One newly detailed client feature that's expected to appeal to corporate IT shops is User Account Protection, which will enable administrators to give end users only the system privileges they need to do their work.

One IT manager, who asked not to be named, said his company has been forced to assign administrator privileges to many users because of application requirements and logistics. The company's limited IT staff doesn't have time to make changes to all remote laptops, so users are allowed to make simple changes on their own. But that isn't the desired approach. "We're trying to get more and more off the admin [setting]," the IT manager said.

Michael Silver, an analyst at Gartner Inc., estimated that he received 100 calls last year from clients who wanted to lock down end users' systems. He said even some mainstream software applications require users to run in administrator mode.

> **"Do we want to go through another operating system upgrade? . . . We'd have to take a look at it.**
>
> **BRUCE SCHMIDT**, WORKSTATION ARCHITECTURE AND CONFIGURATION TEAM LEAD, ATCO I-TEK INC.

Microsoft's research indicates that 85% of corporate users and 97% of consumers run their machines as administrators, according to Neil Charney, a director of product management at the company. Charney said Microsoft hopes the percentages will decline as a result of the User Account Protection feature.

Another IT pain point that Microsoft hopes to address through Windows Vista is the creation of operating system images on a system. A new feature will provide IT managers with a single file that contains one or more complete installation images.

Charney said IT shops now have to create separate images for users who speak different languages or for PCs with differing application allotments. Windows Vista includes a tool called xImage for building images, and IT staffers will be able to store one image with multiple deployment configurations, he said.

But Silver said many companies already have turned to third-party products to address their imaging needs.

For example, at Edmonton, Alberta-based Atco Ltd., no more than 200 of the 3,500 desktops have the same operating system configuration, so the company's IT arm, Atco I-Tek Inc., had to devise a solution to the imaging problem. The IT shop creates an image of the core operating system, customizes it and then distributes it using IBM's Tivoli software, noted Bruce Schmidt, workstation architecture and configuration team lead.

Schmidt said Atco will have to be "extremely compelled" to move from Windows XP to Windows Vista, particularly since its volume-licensing deal has expired. He said the company is currently "going through the pain" of installing XP Service Pack 2. "Do we want to go through another operating system upgrade? I don't know. We'd have to take a look at it," he said. **55864**

### Windows Vista Beta 1

**WHAT'S IN**

- **User Account Protection and Network Access Protection**
- **Windows Service Hardening**, to monitor for abnormal activities in the file system, registry and network
- **Antimalware tools** to detect and remove worms
- **Internet Explorer 7** with tabbed browsing, a phishing filter and a built-in viewer for RSS Web feeds

**WHAT'S NOT**

- **The final version of the user interface**
- **Updates to Media Player and bundled games**

## Microsoft Plans Premium Editions of Windows, Office

**AT MICROSOFT'S** annual financial analyst meeting last week, top executives disclosed sketchy plans to introduce premium versions of products such as Windows and Office in hopes of driving more revenue growth.

CEO Steve Ballmer said the company expects to introduce a client-level enterprise edition as part of "the Windows Vista generation," as well as a higher-end version of Office. He compared the plan to the introduction of the professional edition of Windows, which he said drove "literally billions of dollars" worth of increased revenue growth over the home version of the client operating system.

Ballmer added that Microsoft is thinking about a new Office Server concept that would have premium client-access licenses associated with it, as well as a premium client-access license for Windows Server.

"It's premium value to premium price," Ballmer said. "We're of course going to keep the current product set around, and we're going to have to prove to our customers that they want the premium value."

Les McCarter, director of IT infrastructure and operations at Hawaiian Electric Co. in Honolulu, said he hopes the premium products will be included as part of the utility's enterprise agreement with Microsoft.

"Microsoft keeps talking about the partnership they're creating with us, and I'd like to think they'd invite us to that party," McCarter said.

"Our enterprise license is coming up this year, and we've got to evaluate the value of what we're paying," he added. "They have to continue to add value to it, as opposed to us just renewing automatically."

– *Carol Sliwa*

# Shortage of Mainframe Skills May Give IT Execs Gray Hairs

BY PATRICK THIBODEAU

Art Louise is like many mainframe professionals. He has three decades of experience with systems and programming languages such as Cobol and assembler that remain critical in data centers but aren't the skills of choice for most new IT professionals.

The generational gap will likely be obvious at the Share user group's conference later this month in Boston. And Louise, who manages mainframes at New York-based Group Health Inc., said last week that businesses like his may soon have trouble finding workers with mainframe skills.

The need to integrate third-party software with upgraded mainframe operating systems and custom applications will be one of the big issues facing companies, Louise predicted.

"There aren't a lot of people who are going to school for Cobol," he said. "Basically, it's a trickle-down issue."

IBM and other vendors also have concerns about a lack of mainframe know-how.

"I personally feel that there is a skills shortage out there," said Bill Miller, a vice president and general manager at Houston-based BMC Software Inc. "Colleges and universities in the past 10 years have not been delivering to the marketplace people with assembler skills, especially."

IBM, citing the skills gap, said last month that there are now 150 colleges and universities worldwide participating in its Academic Initiative. The program, which was launched in 2003, includes training on the company's zSeries mainframes. IBM hopes to double the number of schools that are involved by year's end.

"I think people recognize the fact that there is a potential problem coming," said Bob Shannon, treasurer of Share and a manager at Rocket Software Inc. in Newton, Mass. Share runs many mainframe-related training programs.

## Perception Problem

But the Chicago-based user group and other mainframe backers may be facing an uphill fight luring many young IT workers to the technology.

For instance, Northern Illinois University in DeKalb is one of the universities with a mainframe-specific program. But the perception among incoming students is often that the mainframe is an old, uninteresting technology, despite the high job placement rate of mainframe graduates, said Penny McIntire, a faculty member and assistant to the chairman of the computer science department.

The makeup of the faculty at Northern Illinois may reinforce that perception, she noted. Many of the professors who teach mainframe classes are of baby boomer age or older, said McIntire, who added that she is worried about replacing them when they retire.

IBM's decision to put Linux on the mainframe has helped expand IT interest in the systems, and about 25% of the attendees at recent Share conferences were first-time visitors, according to Louise, who is active in the user group.

IT executives such as Jim Dillon, CIO of New York's state government, remain firmly committed to using mainframes. "We see us staying with the mainframe for some time," said Dillon, who attended the announcement of IBM's System z9 hardware last week (see story above).

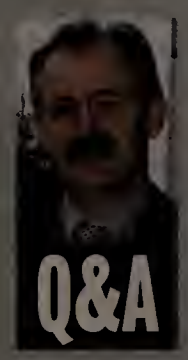
Dillon said he particularly likes the high-availability and security features that mainframes offer. He added that even though New York has moved more of its applications to open systems, he wants to continue taking advantage of the skills and expertise of the state's mainframe professionals. 55867

## Vendor Expects Mainframe Uptick

NEW YORK

**Erich Clementi**, general manager of IBM's Systems and Technology group and head of the company's mainframe efforts, spoke with *Computerworld* last week about the planned rollout of the System z9 and other issues.

**Previous mainframe announcements have usually focused on performance improvements. But this time, security seemed to share center stage. Why was that?** Mainframes are developed for very specific customer sets. Right now, the biggest input we get is, "Help us fix the security problem." That's why we put particular focus on these features and the availability of encryption [technology].




**Who are the likely customers for this system – existing mainframe users?** I think we are going to broaden beyond that. Connecting everything is powerful, but it also comes with its set of problems. The moment you start sharing [data], you want to be pretty sure that what you share is what you intended to share. We see very interesting uses of our technology in segments of the market that previously were not typical mainframe segments.

**But makers of distributed systems argue that there already is a high degree of security and reliability built into their servers.** The single system needs to be secure. [But] once you connect all the systems, a new level of problem starts coming to you. You've got to manage that security and reliability.

Today, most data resides on mainframes. If you have a geographically dispersed parallel sysplex, I can assure you that I can not only save your data integrity in case of disaster; I can also restart all your applications.

**Do you feel like you're running a dying business?** This is not the mainframe that used to be. If we didn't open the mainframe to Java technology, to TCP/IP, to Apache, to Linux, to what are distributed technologies, this would have gone a different course. We have grown revenue – how about that for a dying species?

*– Patrick Thibodeau*

## IBM Bulks Up Big-Iron Security Tools

NEW YORK

**IBM** last week announced its first mainframe upgrade in two years, and company officials said they expect the new System z9 hardware to play a particularly important role in enterprise IT security management.

IBM said the z9 will be able to rapidly encrypt data stored on the system itself or on tapes. It will also be capable of processing up to 6,000 "secure online handshakes" per second for e-commerce transactions via the Secure Sockets Layer protocol. That represents a threefold improvement over the performance of the existing zSeries z990 high-end model, IBM said.

It added that overall, the z9 can process up to 1 billion transactions per day – more than double the number that can be handled by the z990, which was code-named T-Rex while it was being developed.

The Workers' Compensation Board of Alberta, Canada, was an early adopter of the z990. Murray Mitchell, manager of enterprise architecture at the government agency, said he recently heard a presentation from IBM about the z9 and thinks it will give him a performance gain of about 35%.

"That's a far cry from Moore's Law," said Mitchell, adding that he was "a little underwhelmed" by the performance numbers.

But the agency's lease on the z990 is up for renewal next year, and Mitchell said the cost of maintaining an older system may help make the case for moving to the z9.

The z9 line will include five models that can scale from one to 54 processing units, up from a maximum of 32 CPUs on the z990. Systems supporting up to 38 processors are due for release next month, with the top-of-the-line S54 model following in November, IBM said.

Charles King, an analyst at Pund-IT Research in Hayward, Calif., said IBM's emphasis on the z9's security features, especially for storage media that can be easily lost or stolen, "is something that clearly is going to get people looking at it."

IBM also detailed upgraded virtualization technology that can work with an expanded number of its systems and products from other vendors, including Hewlett-Packard Co. and Sun Microsystems Inc.

The Virtualization Engine 2.0 software supports dynamic partition management on systems based on IBM's Power5 processors, integration with zSeries network load-balancing capabilities, and other management and automation tools for all of the company's eServer lines.

*– Patrick Thibodeau*

IBM's System z9

## BRIEFS

### Cisco to Buy Vendor Of Network Tools

Cisco Systems Inc. has agreed to pay about $97 million to acquire Sheer Networks Inc., a maker of tools for managing complex networks. San Jose-based Sheer's products include Sheer DNA, which can be used to create real-time, virtual networks. The 100-employee company will become part of Cisco's Network Management Technology Group. Cisco said it expects to complete the deal by the end of October.

### Alliance Publishes Grid Security Paper

The vendor-backed Enterprise Grid Alliance moved to accelerate the adoption of grid computing among corporate users by publishing its first paper on the security needs of grid technology. The paper is intended to help end users, vendors and standards groups identify the risks associated with the use of grid computing for big business applications.

### HP, Altiris Unveil Jointly Built Tools

Hewlett-Packard Co. and Altiris Inc. have unveiled a pair of jointly developed client management software bundles. HP and Lindon, Utah-based Altiris had delayed the releases from early last month to avoid being overshadowed by the steady stream of other HP product and restructuring news in recent weeks. HP resells Altiris' life-cycle management software under an earlier deal.

### Sun Reports Profit, But Sales Fall Again

Sun Microsystems Inc.'s quarterly revenue continued to decline in its fourth quarter, but the company posted a profit thanks to a one-time tax benefit.

SUN BY THE NUMBERS

| | REVENUE | PROFIT |
|---|---|---|
| Q4 '05 | [illegible] | $121M |
| Q4 '04 | [illegible] | $783M |

# ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL


MATTHEW FAULKNER

## Dual-Core Chips Can Trip Up . . .

**. . . programmers in the debug phase** of application development. "You still tend to think of threads as distinct tasks," says James Reinders, director of marketing and business development at Intel Corp.'s software products division. That's a mistake, he warns. Reinders, a former supercomputer programmer, notes that threads — those parts of a program that can be run in parallel — must be debugged individually. "Yet they aren't completely independent of each other," he says. For example, threads may share a microprocessor's cache memory, but you need to make certain that they don't overlap their calls to the cache and pull out the wrong data. Since Intel projects that 85% of servers shipped by the end of 2006 will be based on dual-core processors, threaded software will likely become the norm. Reinders says you can migrate existing apps to run better on dual-core systems by using dual-core-aware compilers, such as Intel's brand-new 9.0 family. The compilers can scan your code and tell you where the best places are to thread an application. Pricing starts at $399.


REINDERS advises IT to debug threads carefully.

### Network tool aims to help secure . . .

**. . . your applications.** Despite their best efforts, developers don't always succeed in protecting their code from malicious intruders. Erik Giesa, vice president of product management and marketing at F5 Networks Inc., says the Seattle-based company is developing technology that lets IT managers apply network security policies to guard apps. For example, F5's technology would prevent a program from revealing details about an application environment to hackers via error messages that they might trick the software into sending. The as-yet-unnamed product will be shipped as part of an appliance and added to the company's Big-IP switch by year's end, Giesa says.


GIESA says use your network to protect apps.

### Open-source rating service is nigh . . .

**. . . for corporate IT.** Nick Halsey, vice president of sales and marketing at SpikeSource Inc. in Redwood City, Calif., says there is "no objective way" to evaluate the plethora of open-source technologies available on the Internet. For example, Joaquin Ruiz, SpikeSource's vice president of product marketing, claims that there are nearly 375 content management projects alone listed on SourceForge.net, a Web site for open-source developers. Later this month, SpikeSource, Intel and Carnegie Mellon University's Center for Open-Source Investigation will unveil the Business Readiness Rating, a service that evaluates how well a given technology will work in the corporate world. Ruiz says the ratings won't take a one-size-fits-all approach — they'll account for different business factors, such as a company's size and the industry it's in. The rating service should be ready for use by the end of the year.


RUIZ: It's time to rate open-source for business.

**21** Number of open-source components available for SpikeSource's "core stack."

In addition, SpikeSource, which certifies the compatibility of a variety of open-source stacks [QuickLink 53783], today will begin certifying custom combinations of open-source code. The company will configure and test open-source software and provide automated installation tools at no cost. To assure the continued compatibility of your components, you can subscribe to the company's update service for an annual fee of $995 per server.

### Search tool for IT infrastructures is . . .

**. . . due to be released next week.** Splunk Technology Inc.'s Personal Server software runs on a Linux system but can collect data from configuration, log and database transaction files plus other data repositories on computers throughout your network. Michael Baum, CEO of San Francisco-based Splunk, says these files are the ideal place to conduct a root-cause analysis when apps fail, but they're too big and cumbersome to peruse manually. Splunk's product "dynamically finds relationships between events and the data," claims Baum. A workgroup version will ship next month, and an enterprise version is due in the first quarter of 2006. Pricing hasn't been set.

### Forget searching for keywords and . . .

**. . . consider looking for concepts.** Dallas-based Engenium Corp., which sells its Semetric software to other vendors for inclusion in their products, is planning a September release of a version that corporate users can license directly. CEO Dave Chaplin says Semetric uses "semantic analysis" to connect concepts in ways that keyword searching can't match. For example, a hiring manager seeking a Java developer might not find candidates who describe themselves as object-oriented programmers. Chaplin claims that Semetric 4.0 understands the conceptual equivalence of the two. Pricing starts at $25,000. **55834**

# INSTALL. MONITOR. GROW. REPEAT.


## HP PROLIANT BL20p G3 BLADE SERVER

with ProLiant Essentials Management Software

- Up to 2 Intel® Xeon™ Processors (3.60GHz/2MB)[1]
- High density: Up to 48 servers per rack
- Flexible/Open: Integrates with existing infrastructure
- HP Systems Insight Manager™: Web-based networked managment through a single console
- Rapid Deployment Pack: For ease of deployment and ongoing provisioning and reprovisioning

## HP STORAGEWORKS MSA1500cs

Get 2TB of Storage Free ($2,800 Value)[2]

- Up to 24TB of capacity (96 250GB SATA drives)
- Up to 16TB of capacity (56 300GB SCSI drives)
- Ability to mix SCSI and Serial ATA enclosures for greater flexibility
- 2GB/1GB Fibre connections to host

The HP ProLiant BL20p G3 blade server with the Intel® Xean™ Pracessor simplifies server management. Simple to set up, simple to monitar, simple ta manage. It all starts with the Rapid Deplayment Pack, giving you an automated setup process to canfigure and deploy servers at a high valume and a rapid pace. Then HP Systems Insight Manager™ carefully manitars yaur infrastructure, alerting you to potential prablems befare they occur. And, whenever yau're away fram the office, the remote management features let yau manage yaur server no matter where yau are. Plus, you can bundle it with the HP StarageWorks MSA1500 to make storing your data simple, scalable and affardable. Sa with HP, you get more expertise before you buy, more technalagy when yau da and more support after.

**SMART ADVICE > SMART TECHNOLOGY > SMART SUPPORT**

**Download a free IDC white paper:**
*Reducing Total Cost of Ownership Through the Use of Blade Systems.*

**Save $750 instantly**
on a blade enclosure solution.[3,4]
See Web s te far deta s.

**Call 1-866-356-6090**
**Click hp.com/go/bladesmag3**
**Visit your local reseller**

hp invent

1. Intel's numbering is not a measurement of higher performance. 2. Receive up to 2TB of storage free with purchase of HP StorageWorks Modular Smart Array 1500 cs devices. 3. Save $750 instantly on the purchase of any HP BladeSystem pClass enclosure Offer valid through 7/31/05. 4. Save $750 instantly on the purchase of a BladeSystem pClass 1U power enclosure solution. Offer valid through 10/31/05. All offers available from HP Direct and participating resellers. Prices shown are HP Direct prices, are subject to change and do not include applicable state and local sales tax or shipping to recipient's destination. Reseller prices may vary. See Web site for full details. Photography may not accurately represent exact configurations priced. Associated values represent HP published list price. Intel, Intel Inside, the Intel Inside Logo and Intel Xeon ere trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries ©2005 Hewlett-Packard Development Company, L P

## BRIEFS

### CA to Cut 800 Jobs Despite Profit Rise

**Computer Associates International Inc. plans to cut 800 employees, or 5% of its workforce, in a restructuring aimed at saving $75 million per year. CA also said its first-quarter profits more than doubled on an 8% sales increase.**

CA BY THE NUMBERS

| | REVENUE | PROFIT |
|---|---|---|
| Q1 '06 | $920M | $94M |
| Q1 '05 | $850M | $40M |

### Indian ISP Buys IT Firm in Bermuda

**Videsh Sanchar Nigam Ltd., a Mumbai, India-based telecommunications and Internet service provider, has agreed to acquire Teleglobe International Holdings Ltd., a Bermuda-based provider of wholesale voice, data, IP and mobile signaling services, for $239 million. The purchase of Teleglobe is part of a bid by VSNL to expand beyond India. VSNL closed a deal to buy Tyco International Ltd. for $130 million last month.**

### Siebel Posts Loss As Licenses Decline

**Siebel Systems Inc. confirmed the grim news it gave shareholders early last month, reporting that second-quarter software license sales dropped 20% from last year, contributing to another net loss.**

SIEBEL BY THE NUMBERS

| | REVENUE | PROFIT/LOSS |
|---|---|---|
| Q2 '05 | $314M | ($50M) |
| Q2 '04 | $301M | $7.5M |

### Microsoft Adds Web Mapping Tool

**Microsoft Corp. launched a new online local search tool that goes head to head with an offering from Google Inc. MSN Virtual Earth is similar to Google Maps, providing both street-map and satellite views, as well as driving directions. By year's end, Microsoft plans to expose Virtual Earth as a Web service for organizations to use on their Web sites.**

# High-Tech Tools Help Monitor Shuttle Safety

## Camera and laser sensors provide flight engineers with images, data

BY TODD R. WEISS

NASA SCIENTISTS and engineers are using specialized high-tech components to painstakingly inspect the space shuttle *Discovery* for any possible damage caused by a piece of insulating foam that broke away from the craft's external fuel tank during last Tuesday's liftoff.

A black-and-white camera, two laser sensors and a 50-ft. boom extension that was added to the shuttle's robotic arm are allowing NASA's flight engineers to peruse every square inch of *Discovery*'s outer surface for flaws that could endanger its return to Earth.

NASA officials said Friday that the shuttle doesn't appear to have been damaged by the 2.5-foot-long piece of foam. But continuing inspections were being done to firmly rule out such a scenario.

Adding to NASA's concerns was the apparent loss of a 1.5-in. section of one of the thousands of ceramic heat shield tiles on the shuttle. That situation is also being reviewed using images captured by the new sensors. The equipment was added after the space shuttle *Columbia* was lost on re-entry in February 2003 as a result of launch-related damage from a piece of foam that smashed into the leading edge of a wing and created a hole.

The exterior inspections and evaluations of *Discovery* were being conducted as part of the mission's original schedule, said Debbie Rahn, a spokeswoman for the space agency. "We want to understand the state of the vehicle before the crew returns," she said.

The boom extension was built by the Brampton, Ontario-based space missions group of MacDonald, Dettwiler and Associates Ltd., using spare parts from the original robotic arm. Herb Goettmann, an engineer at MDA, said the laser sensors and camera positioned at the end of the extension can be operated by the shuttle crew to collect detailed images of tiles and protective panels. The data is then downloaded to engineers on Earth.

THE SPACE SHUTTLE *Discovery* is being monitored by NASA scientists using special sensors and other high-tech equipment.

NASA

The extension doubles the length of the shuttle's robotic arm, and the sensors and the camera each have a particular use. For example, NASA's Intensified Television Camera includes an adjustable zoom lens and can take pictures in lighting conditions ranging from very dim to bright.

One of the other devices is a laser dynamic range imager that was designed and built at Sandia National Laboratories in Albuquerque. NASA said the LDRI produces 2-D and 3-D image data as the sensor scans the shuttle surface. In 3-D mode, the scanner colors images like a Doppler weather radar image, with each color representing the depth of surface irregularities.

The third device on the boom is a laser camera from Neptec Design Group Ltd. in Ottawa that scans the shuttle's exterior and records data that can be used to create an image model of its surface. The camera uses the reflection of laser light beamed against the surface to measure the depth and other characteristics of imperfections, said Iain Christie, Neptec's director of research and development.

NASA administrator Michael Griffin pointed to the new technology in a statement announcing that the shuttles won't fly again until the foam-loss issue is resolved. "This is a test flight," he said. "The cameras worked well. The foam did not." **55868**

# Pentagon's IT Upgrade Still at Risk, GAO Says

BY LINDA ROSENCRANCE

The U.S. Department of Defense has spent $318 million trying to develop an IT architecture that supports modern business systems. But four years into the project, it doesn't have much to show for its efforts, according to a report issued last week by the Government Accountability Office.

The report, written by Randolph Hite, the GAO's director of IT architecture and systems issues, said that the Pentagon's enterprise architecture is incomplete, inconsistent and not integrated. It labeled the department's business modernization efforts as at risk.

According to the GAO, the Defense Department has 4,200 systems that support a variety of business functions. The systems environment is overly complex and error-prone and is characterized by little standardization across the department, multiple systems performing the same tasks, and the same data stored in multiple systems, the report stated.

Hite said those problems remain despite the fact that the agency has spent billions of dollars annually since 1995 to operate, maintain and modernize its business systems.

In a written response to the GAO, Defense Department officials concurred with the report's recommendations, including the immediate disclosure of the department's architecture progress and plans to congressional committees.

Hite noted that the Defense Department hasn't adopted previous GAO recommendations. Those included the establishment of an effective governance structure, the development of program plans that spell out measurable goals and outcomes, the creation of an effective configuration management system, the development of a well-defined architecture that describes current business and technology environments, or a transition plan.

"Despite six [business enterprise architecture] releases and two updates, DOD still does not have a version of an enterprise architecture that can be considered well defined," the GAO report stated.

In a telephone interview, Hite said the GAO is required by law to issue an annual report to Congress on the department's business systems modernization efforts that lets lawmakers know what is working and what isn't.

Hite pointed to a recent change in leadership at the Defense Department — Thomas Modly was named deputy undersecretary of defense for financial management, and Paul Brinkley was named special assistant to the undersecretary of defense for business transformation — and said he hopes the new officials will act on the GAO's recommendations. **55849**

# Faster Wi-Fi Approach Wins Broader Support

## Vendors to merge rival proposals for 802.11n spec

BY MATT HAMBLEN

Warring factions of vendors reached an agreement in July to cooperate on development of the next high-speed wireless LAN standard, and IEEE standards officials last week said that the planned joint proposal could be ready for an initial vote in November.

The three factions said at an 802.11n task force meeting held last month in San Francisco that they are "working together to create a single merged proposal," according to a short statement from the task force that was issued by the Institute of Electrical and Electronics Engineers Inc.

### Making Progress

The proposed standard is due to be made available at an 802.11n meeting in Orange County, Calif., during the week of Sept. 18 and should be ready for review and a possible vote by the entire 802.11n working group in November, said Nancy Vogtli, the working group's publicity chairman.

The progress was welcomed by Frank Hanzlik, managing director of the Austin-based Wi-Fi Alliance trade group. Hanzlik described 802.11n as a "turbo-charged" version of the existing Wi-Fi standards because it would quadruple effective data throughput over WLANs to up to 100Mbit/sec. at a range of 300 feet.

> **"We want to ensure we can continue to grow without replacing equipment."**
>
> **CRAIG RICHARDVILLE,** VICE PRESIDENT OF INFORMATION SYSTEMS, CAROLINAS HEALTHCARE SYSTEM

That kind of throughput would make 802.11n "fast enough for enterprise networking," Hanzlik noted. For example, companies could use the technology to send high-quality design drawings and video files over internal Wi-Fi networks, he said.

But Craig Richardville, vice president of information systems at Carolinas HealthCare System in Charlotte, N.C., said he was concerned about the potential cost of upgrading to 802.11n-based equipment.

Richardville described the promised speed of 802.11n as "positive." But, he said, "we want to ensure we can continue to grow without replacing equipment. I would hope as new standards evolve that we'd probably stay current with minimal investment."

Carolinas HealthCare has more than 500 wireless access points running 802.11b/g that serve its 14 hospitals, and Richardville said the company plans to double the number of access points over the next 18 months.

Hanzlik said that aside from faster throughput, 802.11n will rely on using several antennas instead of one per access point — a technology called Multiple Input, Multiple Output. MIMO takes multiple snapshots of the same signal and combines them for a more accurate result, which is desirable for applications such as video over Wi-Fi.

According to IEEE documents, the merged proposal will be created by three groups: TGn Sync, which is backed by Intel Corp.; wWise, which is supported by Texas Instruments Inc.; and Mitmot.

Hanzlik said he expects 802.11n to be formally ratified and published as an IEEE standard in the first quarter of 2007. **55852**


Well that's done.
Happiness is a dependable Ricoh color printer.


Ricoh dependability moves your ideas forward.
How well do you share?

RICOH
Image Communication

ricoh-usa.com/itchannel

©2005 Ricoh Corporation.

# GLOBAL DISPATCHES An International IT News Digest

## Video Monitoring System Can Check for Bombs

**TOKYO**

OKI ELECTRIC INDUSTRY CO. last week announced a video surveillance system that can issue alerts when it detects suspicious behavior or intrusions. The system could prove useful for beefing up security at airports, factories and other locations, Tokyo-based Oki said.

The company's VisualCast-SS system uses so-called behavior-recognition software developed by ActivEye Inc. in Briarcliff Manor, N.Y., to watch for 35 parameters. When the system spots something it deems suspicious, it can sound an alarm or send an e-mail alert to security staffers.

The system could be set to detect the movement of, say, a car or a human climbing a fence. It also has ability to detect items of a particular size. So it could, for example, monitor an area for objects the size of a briefcase that are left unattended for a specified amount of time. "We don't call this a 'bomb alert' function, but yes, it can be used for that sort of thing," said an Oki spokeswoman.

■ PAUL KALLENDER, IDG NEWS SERVICE

**GLOBAL FACT**

**24%**

**Percentage of homes in Germany with broadband Internet access, the lowest penetration rate among 14 European countries studied.**

SOURCE: STRATEGY ANALYTICS INC., NEWTON, MASS.

## IBM Starts IT Camps For Aboriginal Youth

**TORONTO**

IBM CANADA LTD. last month began to reach out to young people in the country's aboriginal communities in hopes of interesting them in pursuing IT careers. One program launched by IBM is a series of three-day camps where young people are exposed to fields such as robotics and Web design and learn to do things like take apart a PC and put it back together.

"The goals are to create a positive experience for aboriginal boys and girls at a critical point in their educational evolution," said John Longbottom, the IBM Canada executive in charge of the program. "We want to get them excited about math and sciences so they [are] positioned for IT careers over the longer term."

■ VANESSA HO, ITWORLDCANADA.COM

## Third Senior Executive Leaves India's Wipro

WIPRO LTD., India's third-largest software and services outsourcing company, last week announced the resignation of Rich Garnick, the company's head of sales in the Americas. It was the third departure of a senior executive from Bangalore-based Wipro in the past two months. Garnick, who said he's leaving to spend more time with his family, will be replaced by P.R. "Sekar" Chandrasekhar, who currently heads Wipro's European operations. Chandrasekhar will relocate to the U.S. and become chief executive of operations in both Europe and the Americas.

The latest changes came less than one month after Vivek Paul, the company's Silicon Valley-based vice chairman and CEO, announced his departure [QuickLink 55405]. In June, Wipro also lost Raman Roy, who headed the company's business process outsourcing unit. **55824**

■ SUMNER LEMON, IDG NEWS SERVICE

*Compiled by Mitch Betts.*

## Briefly Noted

**France Telecom SA last week said that it will extend its presence in Spain by acquiring 80% of the country's third-largest mobile operator, Amena, for 6.4 billion euros ($7.7 billion U.S.). Amena is the retail brand name of Retevision Movil SA in Barcelona.**

■ PETER SAYER, IDG NEWS SERVICE

**Turkish Airlines Inc. in Istanbul plans to use business intelligence software developed by MicroStrategy Inc. to analyze sales and flight data stored in its 1TB data warehouse, the Reston, Va.-based vendor announced late last month.**

**Vivo, the largest wireless operator in Brazil, has deployed a voice-over-IP network to connect its five major call centers in an effort to improve routing, reduce wait times and virtually eliminate lost calls, vendor Nortel Networks Corp. said last week. São Paulo-based Vivo is a joint venture of Telefonica Moviles SA in Madrid and Portugal Telecom SGPS SA in Lisbon.**

# GM Seeks to Ease Licensing Burdens

## Signs deal to buy Sun's middleware stack

**BY PATRICK THIBODEAU**

General Motors Corp. is adopting Sun Microsystems Inc.'s Java Enterprise System middleware stack in what is the largest deal yet in Sun's effort to sell the software based on its per-employee licensing model, the two companies said last week.

GM, which is a large user of Sun systems as well as those developed by many other vendors, is already using middleware components from Sun, including its portal technologies and Web servers. But with this agreement, GM said it's changing the way it buys Sun software and opening the possibility of broader use.

Moving to the full middleware stack gives the automaker improved licensing management and addresses the need to deal with multiple maintenance contracts, said Fred Killeen, director of systems and chief technology officer for GM's Information Systems and Services Organization. The change will also help GM — which has about 320,000 full-time employees — reduce the number of methods it now uses to count licenses.

**KILLEEN says JES will simplify licensing administration.**

"You count the licensing five different ways, depending on which product it is — one is per object, one is per named user, one is per CPU. In a lot of ways, this simplifies the administration for us," said Killeen. "It actually simplifies a lot of things for us."

Sun charges an annual fee of $140 per employee for the full suite of JES products, but GM likely paid much less, analysts believe. Neither Sun nor GM would disclose the pricing of the deal.

Most independent software vendors license their products on a per-CPU or per-named-user basis. With the GM deal, Sun said its novel pricing approach now gives it 1 million users for its middleware stack. But some analysts don't expect a groundswell of further adoption.

For one thing, there are many users that don't want every Sun offering in the stack. "If you want to do a best-of-breed, it's tough," said Martin Schneider, an analyst at The 451 Group in New York.

Although some users may find that Sun's bundling and preintegration approach makes sense, the "downside is it's pro-Solaris" and more likely to be of interest to existing Sun users such as GM, said Dennis Byron, an analyst at IDC.

Judith Hurwitz, an analyst at Waltham, Mass.-based Hurwitz & Associates, said she thinks some companies have trouble with Sun's per-employee pricing model as a means of determining a product's value.

Sun's work with Microsoft Corp. to improve product integration was another factor that helped the vendor win the GM deal. Last year, Sun and Microsoft signed a multiyear agreement to end their antitrust battle and work on product integration.

GM relies heavily on products from both vendors, and Killeen said the automaker expects to get "better integration between Sun and Microsoft infrastructures and reduce that kind of investment we need to make in doing custom integration." **55862**

## Correction

**LAST WEEK'S PAGE ONE** story about the shutdown of the Interex user group ("Interex, HP World Hit by Finance woes") incorrectly reported the months in which member Kees denHartigh wrote letters to Hewlett-Packard Co. officials to express concerns about a new conference that HP will hold in September. DenHartigh, who was program co-chairman of Interex's HP World conference, sent an initial letter to the vendor in early March. He sent a second letter directly to HP CEO Mark Hurd on July 7, nine days before Interex closed its doors and canceled HP World.

# School System Uses Governance Apps to Stretch IT Staff

## Chicago supports more schools on a dwindling budget

BY THOMAS HOFFMAN

The Chicago Public Schools (CPS) department is making use of a hosted IT governance system to help it support a growing base of end users amid continuing budget cuts.

Beginning next month, the nation's third-largest public school system will provide 30 independent charter schools with the option to purchase technology services from the school district, which already supports IT operations for 640 schools, said CPS CIO Bob Runcie. The school system's Office of Technology Services secured its first charter school customer a few weeks ago and is signing up others.

Meanwhile, over the past two years, the CPS IT services group has had to cut its annual operating budget from about $36 million to $29 million. "And the only way to do that is to be very disciplined about prioritizing the [IT] workload and projects," said Runcie.

### Saving Time and Money

Last September, the school system began using a hosted Web-based IT governance and portfolio management system from Mercury Interactive Corp. in Mountain View, Calif. The Mercury IT Governance Center, which is installed on some 600 desktop machines via Java applets, enables the school system's IT staffers to catalog, prioritize, assign and track thousands of IT maintenance and project requests. CPS has many legacy systems and a high volume of maintenance work that needs to be done by an IT department that consists of just 200 full-time workers and 150 consultants, said Runcie.

There are other benefits as well. Because it's using a hosted software approach, the IT department is saving about $200,000 annually compared with the costs of installing and maintaining the IT governance software itself, according to Runcie.

RUNCIE says the hosted approach saves CPS $200,000 annually.

The use of IT governance and portfolio management techniques "is of massively high value for institutions — public or private — that face continual budget pressure," said Howard Rubin, a senior adviser at Gartner Inc. who is also professor emeritus of computer science at the City University of New York. IT governance and portfolio management tools let organizations align IT projects with their strategic goals using fact-based analysis, said Rubin.

CPS hasn't yet quantified the returns it has garnered from the $100,000 it's paying annually for the hosted software service, said Runcie. But the software has provided the IT department with the ability to catalog and track work requests against the deployment of IT staffers, including the number of hours that its consultants are logging against various projects, he added.

The school system's IT governance council, which is made up of high-level executives, uses the tool when it meets every other month, to develop business cases for all proposed IT initiatives, said Runcie. "So if Department A wants to put in a new library-automation system, we can use the tool to ID the cost, the alignment with our strategic initiatives, the implementation strategy, the payback period [and] ROI," he said. **55842**

Well that's done.
Happiness is a dependable Ricoh color printer.


Ricoh dependability moves your ideas forward.
How well do you share?

RICOH
Image Communication

ricoh-usa.com/itchannel

©2005 Ricoh Corporation.

*Continued from page 1*

# Cisco Flaw

the conference proceedings.

But Lynn, who initially agreed not to make the presentation, resigned from ISS Wednesday morning and proceeded with his talk, prompting Cisco and ISS to secure a federal court injunction preventing him from further spreading the information.

At a press conference Thursday, Lynn said his decision was prompted by his desire to show the world that Cisco routers — which power a vast portion of the Internet infrastructure — are susceptible to devastating attacks. The theft of some IOS source code last year lent urgency to his decision to go public with the information, Lynn noted.

Cisco said it would release a security advisory to "clarify confusion" about the router flaw. But Cisco and ISS defended their actions, saying that Lynn's presentation was based on incomplete research.

"Both companies agreed that further research was needed to better inform customers" of the issues involved, said Cisco spokesman John Noh. He added that while Cisco supports the work of security researchers, "we believe that Lynn's presentation contained proprietary information that he illegally obtained" by decompiling source code.

## Questions on Approach

The manner in which Cisco handled the dispute raises questions, said Christofer Hoff, director of enterprise security services at Western Corporate Federal Credit Union in San Dimas, Calif.

"I'd like to understand that if this isn't a security vulnerability but more an issue of protecting [intellectual property] rights, why were ISS and Cisco going to allow the presentation in the first place?" Hoff said. "If it is a vulnerability, what is the extent of the issue? What are they going to do about it? And when are they going to do it?"

> **"If it is a vulnerability, what is the extent of the issue? What are they going to do about it? And when are they going to do it?"**
>
> CHRISTOFER HOFF, DIRECTOR OF ENTERPRISE SECURITY SERVICES, WESTERN CORPORATE FEDERAL CREDIT UNION

> **"Both companies agreed that further research was needed to better inform customers [of the issues involved].**
>
> JOHN NOH, CISCO SPOKESMAN, REFERRING TO THE NETWORKING EQUIPMENT VENDOR AND ISS

Researchers often disclose security flaws and exploits for self-promotional reasons. But Cisco's evasive actions are likely to attract more hacker attention rather than less, said Lloyd Hession, chief information security officer at BT Radianz, a New York-based network services firm. "If you want to get your company onto CNN, this is one way of doing it," Hession said, adding that he wants Cisco to provide more details on the flaw and the exploit described by Lynn.

"The horse is out of the barn at this point," Hession said. "What we would expect from them is no different than what we would expect from Cisco when any type of new vulnerability is discovered. We need a clear and concise explanation from them about the circumstances under which it can be exploited."

Though Lynn's presentation dealt with an already known hole, it provided the hacker community with the knowledge needed to exploit it successfully, said Thor Larholm, a senior security researcher at PivX Solutions Inc. in Newport Beach, Calif. "The main point of this disclosure is that there will be a lot more focus on IOS as being an exploitable system," Larholm said.

Cisco's actions reek of high-handedness, said Bruce Schneier, chief technology officer at Counterpane Internet Security Inc. in Mountain View, Calif. "It's downright scary if you are allowed to argue that negative things about your company can't be disclosed," Schneier said.

But researchers do need to be responsible when making disclosures, Hoff said.

"It's a slippery slope between full disclosure and responsible delivery [of information]," he said. "As a consumer, I'd like actionable intelligence as soon as I can get it, but I would like to have a solution to the problem, not just a shrinking [exploit] window."

The actions of researchers such as Lynn are "reprehensible, bordering on the criminal," said Dennis Treece, director of corporate security at the Massachusetts Port Authority in Boston. "If he published a paper telling every burglar how to compromise a certain alarm system or get through a certain type of door because of some manufacturing defect, he would be equally out of line." **55863**

*Continued from page 1*

# Spyware

had already begun taking steps to better protect their systems before the FDIC issued a set of guidelines on July 22 for avoiding spyware downloads.

Speare said he noticed a performance drop among the 15,000 desktop computers at M&T as spyware and adware infiltrated systems in recent years. But without measurement tools or enterprise-class spyware blockers, he was unable to quantify the full extent of the problem and prevent further infiltrations.

For the past six months, Speare has been beta-testing Symantec Corp.'s AntiVirus Corporate Edition v10, which includes protection against adware and spyware. The antivirus software quarantines about 90% of the spyware coming through M&T's firewalls, Speare said. But often, the spyware that Symantec's tools don't catch forces the bank's IT staff to reinstall software images on end-user PCs.

"These programs are very sophisticated and well written," Speare said. "Unlike viruses that are more of an ego-driven piece of software, there's a financial model around spyware. [The authors] make money off of it. And anything a criminal can make money at, he's going to do."

## A Growing Problem

Jered Green, a senior systems engineer and lead security assessor at Miami Lakes, Fla.-based InfoSight Inc., which does network penetration testing for corporate clients, said the spyware problem is becoming worse.

"The people with bad intent are realizing how powerful spyware can be," Green said. "I'd say better than 80% of the PCs I've scanned have significant spyware on them." In many cases, laptops and handhelds get left out of corporate protection plans, he noted.

### Recommended Actions

**The FDIC said that financial services firms should take the following steps:**

- **Consider spyware threats** as part of their risk-assessment processes.
- **Enhance their data security and Internet-use policies** to address the risks associated with spyware and specify acceptable end-user behavior.
- **Expand employee training** to include information about spyware.
- **Educate customers about spyware risks and encourage them** to take protective measures on their own computers.
- **Evaluate multifactor authentication methods,** which could limit identity thieves' ability to compromise customer accounts.

The FDIC warned banks that spyware can be a conduit for hackers to get into their systems and collect sensitive data. "It is critical that banks stay vigilant about the risks involved with this malicious software and take appropriate action so that they and their customers do not fall victim to it," Michael Zamorski, director of the FDIC's Division of Supervision and Consumer Protection, said in a statement.

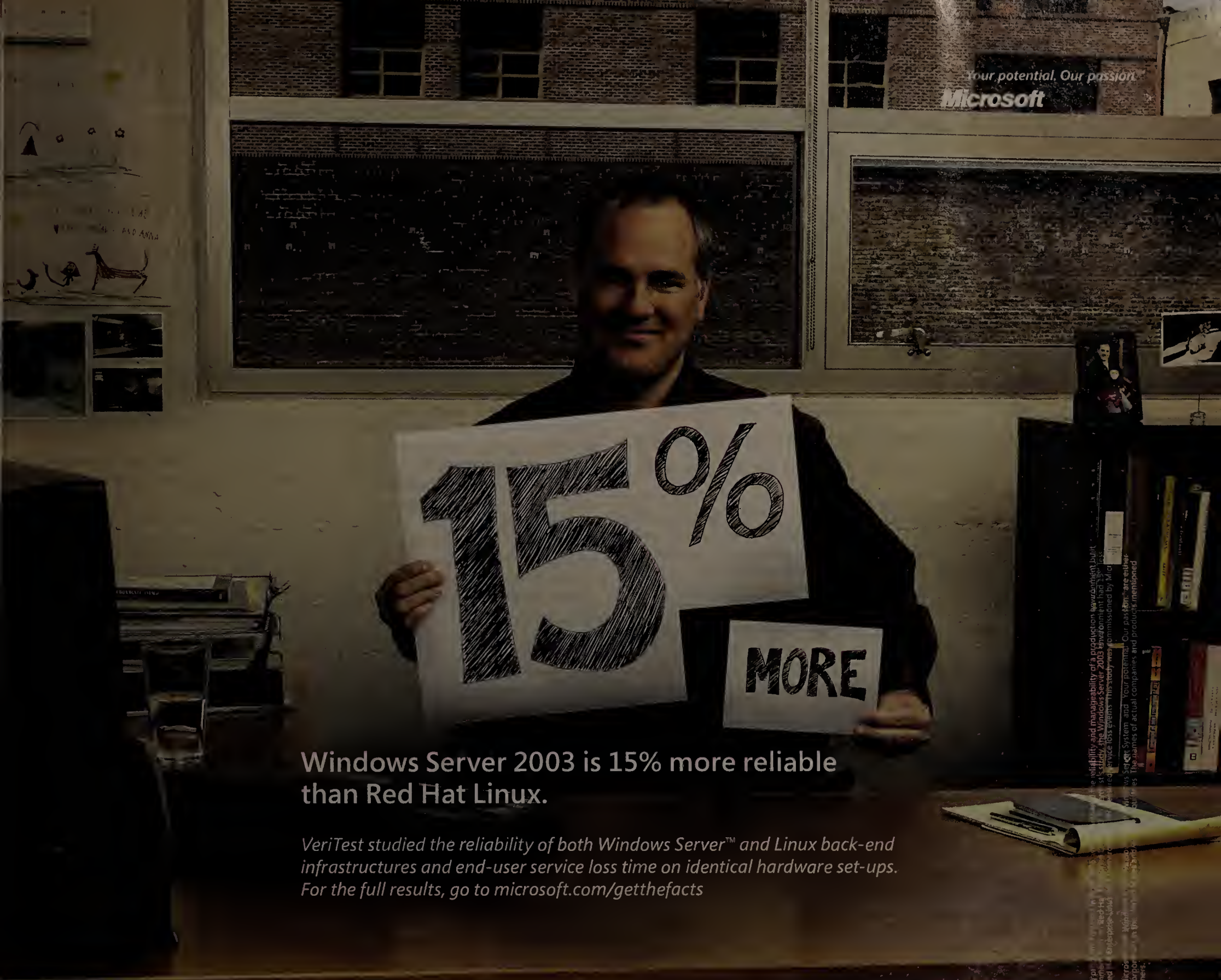
The guidance from the FDIC spells out the risks associated with spyware and recommends actions that financial institutions can take to mitigate the problem both internally and on the computers that online customers use (see box, left).

For example, the FDIC suggested the use of multifactor end-user authentication technologies and said that banks should warn customers about the risks of using public-access computers.

Jim Hochstatter, vice president of technology at Ulster Savings Bank in Kingston, N.Y., said that until a year ago, the bank kept separate networks for core processing and external communications, offering computer kiosks to employees who wanted to surf the Web. But with the increase in Web-enabled applications for customer use, it was inevitable that spyware would become a concern, he said.

Hochstatter said Ulster Savings last year outsourced its data protection activities to Perimeter Internetworking Corp. in Milford, Conn. The bank uses Perimeter's e-mail protection services and is now considering two-factor authentication for end users.

Speare added, though, that he and many of his industry peers are "cringing" at the thought of using multiple authentication factors. "We're all struggling with that," he said. "We don't want to be in the business of supporting tokens or digital certificates, because we'd have to have a whole support infrastructure around them." **55853**




## Windows Server 2003 is 15% more reliable than Red Hat Linux.

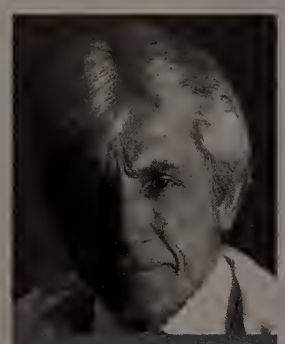
*VeriTest studied the reliability of both Windows Server™ and Linux back-end infrastructures and end-user service loss time on identical hardware set-ups. For the full results, go to microsoft.com/getthefacts*

Microsoft
Windows
Server System

DON TENNANT

# Trademark Arrogance

MICROSOFT'S announcement that its next version of Windows (you know, the one code-named Longhorn) will be called "Windows Vista" left a lot of people scratching their heads. Why call it Vista when there are already something on the order of 180 computer-related products with that name? Just because those products aren't operating systems doesn't mean there won't be a lot of confusion and a lot of little guys who will have to suck it up because they don't have the money to even think about standing up to Microsoft in a trademark infringement case.



DON TENNANT is editor in chief of *Computerworld*. You can contact him at don_tennant@computerworld.com.

As Microsoft lumbered unapologetically into that Vista valley last week, I couldn't help but think about the case last year when the software giant decided to squash a 17-year-old Canadian named Mike Rowe. This kid dared to set up a Web site called *mikerowesoft.com* (clever, huh?), and Microsoft went ballistic.

First, it demanded that Rowe transfer the domain name to Microsoft, with no compensation other than 10 bucks to cover the domain registration fee. When that didn't work, Microsoft sent Rowe a 25-page nastygram accusing him of copyright infringement and threatening legal action. Eventually Microsoft wrestled the domain name away from Rowe in exchange for an Xbox, the cost of switching to a new site, some certification training and a flight to Redmond so he and his family could attend Tech Fest.

There are any number of other examples of Microsoft's intolerance when it comes to protecting its trademarks. If the Mike Rowe case is the most entertaining, the runner-up is probably the case of Microsoft forcing Linux vendor Lindows Inc. to change its name to Linspire Inc. What's up with that? Since when is a rhyme a trademark infringement?

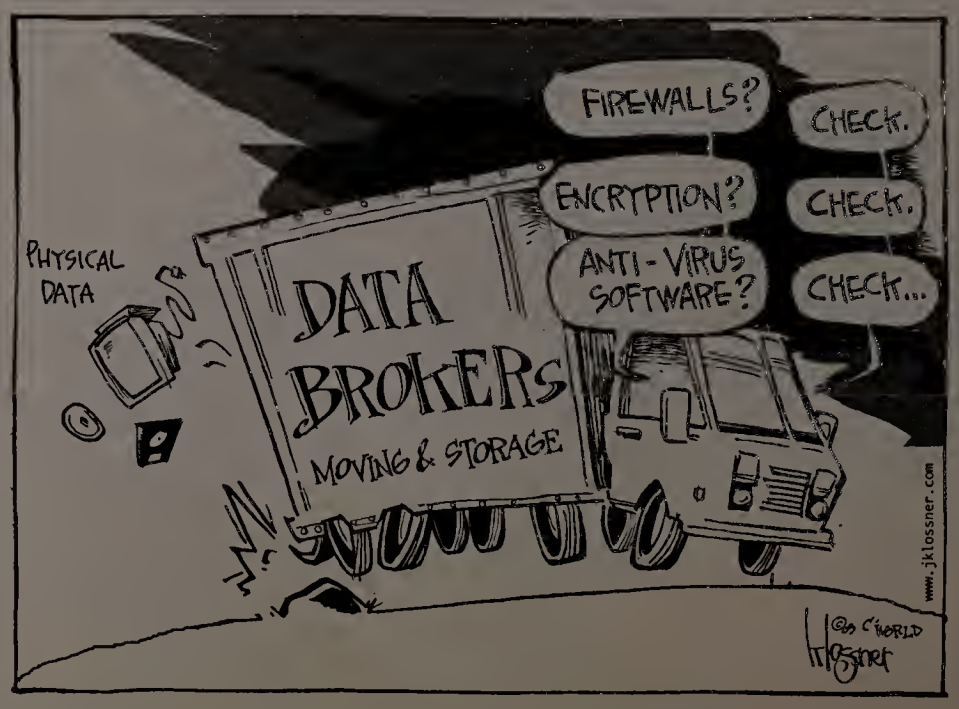
Then there was another case last year in which Microsoft went after a software company called Savvysoft. At issue was a Savvysoft product called TurboExcel, which vastly improves Excel's performance and happens to enable users to run Excel spreadsheets on Linux. That apparently annoyed Microsoft to the point where it finally got around to filing a trademark application for Excel, 19 years after it had introduced the product. With that ammo, it was able to attack Savvysoft.

Beyond this intolerance is a reality-be-damned protectionism that borders on fanatical, if not maniacal. There's actually a page on Microsoft's Web site [QuickLink a6760] that instructs journalists to use those ridiculous ® and ™ symbols on the "first or most prominent mention" of every Microsoft name that's trademarked. What that means is Microsoft expects us to do something like this to you: "Developers at Acme Co. use a range of Microsoft® products, including Visual J++®, Visual Studio®, Visual C#®, Visual Web developer™ and Visual FoxPro®." Can you imagine how excruciating it would be to read an article about Microsoft if we actually abided by that absurd "guidance"?

If Microsoft expects the rest of the world to bow in submission to its trademarks, it should have the decency to steer clear of the trademarks of companies that lack the resources to put up a legitimate fight. Companies like Epicor Software, Integrated Decision Systems, Gambro, Carter Pertaine and Science Horizons — all of which have trademarked software products called "Vista" — can coexist because none is overwhelmingly dominant across vertical markets. Windows Vista dramatically alters that landscape.

Trampling on those companies this way is inconsistent with the position Microsoft takes with its own trademarks. Worse, it bespeaks arrogance. And nobody can touch Microsoft's trademark on that. **55836**

Don Tennant




BRUCE A. STEWART

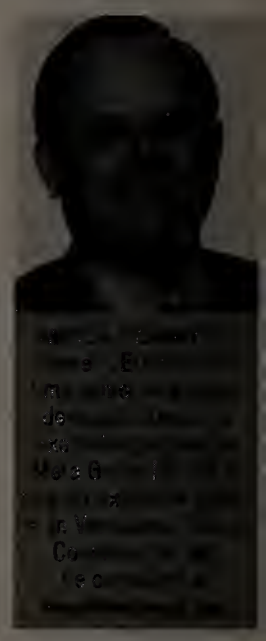
# It's Up to You to Help Users 'Get' It

"THEY just don't get it." I've heard that phrase over and over throughout my more than 30 years in IT.

The business doesn't get IT. The developers don't get the needs of operations. The users don't get the architecture. The executives don't get how good we are. The list goes on and on.

Take a look at the highly effective achievers in IT. Somehow — is it really just luck or magic? — the people around them seem to get it.

So, what's different? Achievers know that it's their responsibility to help other people "get" whatever they are working toward. They know that they must be leaders, leading those around them toward the future.



Usually when I hit this point in my IT marketing talks or my leadership workshops, someone brings up the example of the executive who's resistant. My favorite example of the past few years is the exec who says, "The answer is outsourcing — what was your question?"

Let's face it: There are a few people whose minds are tightly closed. As with anything else in IT, outsourcing is just a tool, a method of delivery. Tell me what you're trying to achieve, and I'll be able to tell you if it really is the answer. That, by the way, is the way to reply to the outsourcing bigot.

Most people, though, are simply afraid of looking inept or making a bad decision. So they don't try to learn. ("If I don't know about it, maybe it will go away.")

Effective achievers know that rushing out to inundate users with information isn't going to work. (That's why educating business people on IT hasn't helped them "get" it.) Rather, they

Special Advertising Supplement

COMPUTERWORLD

MOBILE & WIRELESS WORLD

# Best Practices In Mobile & Wireless

## 2005 AWARDS PROGRAM

# Award-Winning Solutions

Special supplement co-sponsored by:

intel

cingular raising the bar

Produced by:

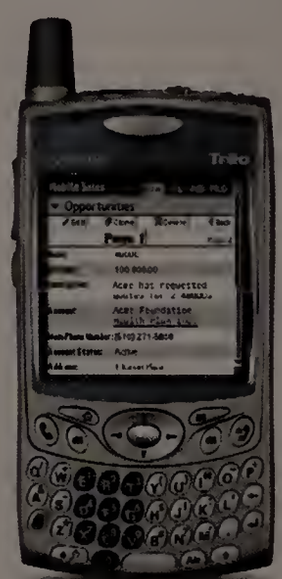
COMPUTERWORLD CUSTOM PUBLISHING

OUR FASTEST PALM OS® DEVICE EVER: THE TREO™ 650

# want to be on the road and in the office simultaneously?

**Cingular's Treo 650 provides real-time wireless access to your customer data while you're on the road.**

- Runs on EDGE, the fastest national wireless network
- View up-to-the-minute customer contacts, account history, inventory, and order status from the field
- On-the-go access to the Internet and corporate or personal email
- Quad-band for global voice and data coverage
- Bluetooth® wireless connectivity



Treo 650

palmOne SYBASE

Call your account representative or visit www.cingular.com/SFA.

cingular
raising the bar

**Coverage** not available in all areas. **Limited-time offer.** Other conditions and restrictions apply. See contract and rate plans brochure for details. Up to $36 activation fee applies. Phone price and availability may vary by market. **Early Termination Fee:** None if cancelled in first 30 days; thereafter, in FL, GA, SC, NC, KY, TN, MS, LA, AL, NY, and applicable parts of IN and NJ, $240 prorated over term; elsewhere, $150 flat rate. Some agents impose additional fees. **Sales tax** calculated based on price of unactivated phone. Additional hardware and/or software may be required to access email. Applications not included. Other trademarks and service marks are the property of their respective owners. ©2005 Cingular Wireless. All rights reserved.

# Dear Reader,

COMPUTERWORLD
MOBILE & WIRELESS WORLD

**Best Practices IN MOBILE & WIRELESS**

AWARDS PROGRAM

August 1, 2005

**Intel and Cingular Wireless** are proud to co-sponsor this special supplement profiling the winners of Computerworld's 2005 "Best Practices in Mobile & Wireless" Awards Program.

These innovators stand out as business-focused technology leaders who used real-time mobile and wireless technology to create tangible, measurable business value. We hope that these success stories will inspire others to assume leadership in their industries by forging wireless links among their employees, systems, assets and customers.

Congratulations to the winners and those who received honorable mentions in this year's program. Thank you to all the IT professionals, public relations firms/agencies and others who participated in the program by submitting case studies for evaluation. We also acknowledge and extend special thanks to the industry leaders, experts and practitioners who served as judges.

This year's award winners represent a variety of industries. Each offers proof that the use of wireless data has expanded beyond traditional e-mail, messaging, departmental functions and field service applications. These winners have transformed business models and streamlined core business processes while unlocking access to data and enhancing the value of business information within their organizations and enterprises.

To all readers of this special supplement, we encourage you to consider the advantages of wireless mobility today. We believe that, like the attendees of Computerworld's Mobile & Wireless World conference, you will conclude that there is a passion for "best practices" and tremendous pride associated with being recognized for successful IT implementations.

Organizations are deploying these solutions because ROI is achievable, the opportunity for market differentiation is real and the cost of falling behind is prohibitive. Not only are mobile and wireless solutions viable (as seen in the examples to follow), but there is a competitive advantage for those who use them wisely and creatively. The only limit is your imagination and commitment.

**ROBERT LEACH**
**WORLDWIDE MARKETING MANAGER MOBILE SOLUTIONS,**

**INTEL CORPORATION**

**LAURA JOHNSON**
**DIRECTOR, INDUSTRY SOLUTIONS BUSINESS MARKETS GROUP,**

**CINGULAR WIRELESS**

# The power to keep moving.

intel inside
centrino
MOBILE TECHNOLOGY

**Steer your business in new directions by starting up mobilized computing solutions featuring Intel® Centrino™ Mobile Technology. You'll see why more and more transportation companies are taking their technology to go. A powerful combination of mobile devices, mobilized software applications and wireless networks helps drive down costs and extend the capabilities of every mobile worker—taking your business where it needs to be.**

**Learn more about how technology can drive your business's growth at:**

**www.intel.com/go/mobilizedsolutions**

intel®

Intel, the Intel logo, Intel Centrino and the Intel Centrino logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries
© Copyright 2005 Intel Corporation.

# Table of Contents

CATEGORY #1

## Business Evolution Through Mobilizing Field Workers

The winners in this category exemplify the adoption of mobile and wireless strategies in the nontraditional mobile workforce. They were able to successfully valuate their field workers' ability to connect with corporate applications and data for business in a remote environment. As a result, they realized increases in efficiency, service enhancement, productivity and bottom line return.

**Winner: Maytag Corporation** ..... 6
Newton, Iowa

**Winner: Saia Motor Freight** ..... 7
Duluth, Georgia

**Honorable Mention: The ServiceMaster Company**
Downers Grove, Illinois

CATEGORY #2

## Deploying Wireless Mobility in the Enterprise

These winners are distinguished by the ability of their IT organizations to map and meet line of business challenges through top-down planning for wireless infrastructure. They developed business processes that exploit mobile and wireless technologies while managing and controlling costs. They further demonstrated a unified vision which supports multiple platforms, applications and mobile devices.

**Winner: Cox Communications, Inc.** ..... 8
Atlanta, Georgia

**Winner: pH Europe Ltd.** ..... 9
Huddersfield, United Kingdom

**Honorable Mention: Staples, Inc.**
Framingham, Massachusetts

CATEGORY #3

## Transforming the "Brick and Mortar" of the Enterprise

The organizations that excelled in this area opened new realms of profitability and performance by transcending "brick and mortar" limitations. They extended the capabilities and productivity of workers outside the office environment. Moreover, they transformed their business models by driving down costs and streamlining additional processes.

**Winner: Landstar System, Inc.** ..... 10
Jacksonville, Florida

**Winner: Zipcar** ..... 11
Cambridge, Massachusetts

**Honorable Mention: Blue Cross Blue Shield of Massachusetts**
Boston, Massachusetts

CATEGORY #4

## Managing Cellular Mobile Data

Winning in this category was dependent upon building and managing PDA-based mobile networks designed to remain compatible with enterprise needs on a long-term basis. This solution includes tapping into widespread deployment of nationwide carrier networks, selecting appropriate technologies, managing and auditing enterprise relationships with SLAs, and enforcing policies for the personal use of business devices.

**Winner: PMI Mortgage Insurance Company** .. 13
Walnut Creek, California

OPINION

## Vertical Horizon

Editorial by Computerworld's Mark Hall .... 14

**This supplement was edited by Bruce Hoard, Managing Editor of Computerworld Custom Publishing, Executive Editor of SNW Online and founding Editor of Network World.**

**Judging criteria and other program information is available online at www.mwwusa.com**

Business Evolution in Action:
Mobilizing Field Workers

# Maytag Corporation

## FAST FACTS

**Maytag Corporation**
Newton, IA
www.maytag.com

**"We were able to extend our enterprise into the wireless world, which in turn has improved productivity, profitability and most importantly has provided a better service experience for our consumers."**

CRAIG HANSEN, DIRECTOR OF IT AND BUSINESS INFORMATION OFFICER, MAYTAG SERVICES

For more than 98 years, Maytag has been a major player in the manufacturing of home appliances. Over the last three years, the company realized that it needed to change its current service business model of servicing only its own family of products to servicing those of its competitors. Subsequently, in moving to an All-Brand service model, they recognized the need to move from a predominantly cell phone/paper model to a wireless-based system.

Maytag recognized four stakeholders – consumers, technicians, clients and Maytag – using focus groups to identify each of their requirements.

### The Challenge

Maytag's requirements included: performance measurements, service call cancellations, and problems related to dispatch, inventory and data integrity. As a result, the project team focused on simplifying current processes. The team used the "process over technology" approach to streamline the business processes before employing the use of technology.

### The Solution

Maytag was able to marry the technology with the process. To test the methodology, a proof of concept (POC) project was conducted during a 30-day period in a market of urban, suburban and rural consumers. During the POC, the team validated the use of handheld devices, printers, credit card readers, GPS devices, functional handheld applications, and both terrestrial and satellite communications.

The POC provided immediate feedback, both good and bad. Maytag dealt with various issues with wireless remote printing, a credit card application challenge, a satellite provider that didn't provide the necessary realtime updates, and GPS mapping that was mediocre at best. After successfully addressing these issues, Maytag expanded into an Operational Pilot program for three markets across the United States. In the wake of these enhancements, Maytag observed improvements in technician productivity, operating costs and the overall consumer experience.

Maytag realized the following key benefits from this project:

- 4.5% on-time service delivery increase
- 33% service arrival time improvement
- 17% in-home repair cycle time improvement
- 200% technician productivity improvement over project goal
- 50% in-home accessory sales increase
- A company service quality assessment score of 98% approval.

Maytag Services Director of IT and Business Information Officer Craig Hansen noted, "By extending our enterprise into the wireless world, we improved our productivity, profitability and most importantly, provided a better service experience for our consumers." ■

JEFF MORGAN (LEFT), DIRECTOR OF FACTORY SERVICE AND CRAIG HANSEN, DIRECTOR OF IT AND BUSINESS INFORMATION OFFICER

MAYTAG
CORPORATION

**The winners in this category exemplify the adoption of mobile and wirelss strategies in the nontraditional mobile workforce. They were able to successfully valuate their field workers' ability to connect with corporate applications and data for business in a remote environment. As a result, they realized increases in efficiency, service enhancement, productivity and bottom line return.**

# Saia Motor Freight

## FAST FACTS

Saia Motor Freight

"Having access to realtime data for customer needs and improving internal processes is huge for our company."

N FLANDERS, DIRECTOR
IT, SAIA MOTOR FREIGHT

Saia Motor Freight, a $600 million revenue LTL carrier with a 30-state coverage area and 127-terminal network, recently implemented a wireless solution for its P&D (Pickup and Delivery) Drivers. The wireless solution was implemented to improve communications and P&D times.

### The Challenge

The challenge was to provide a cost-effective solution for realtime dispatch and customer service.

Saia has been under market pressure to provide more timely POD (Proof of Delivery) information to customers who utilize the information to improve their accounts receivable function. This information includes the time of delivery and the person who signed the receipt of the freight delivery. In the past, this could take several hours or days to provide.

FROM LEFT TO RIGHT: ROHN FLANDERS, DIRECTOR OF IT, DAN GIESEN, DIRECTOR OF OPERATIONS, LOU STOVER, ATLANTA DISPATCHER

Saia was also looking for technological developments that would improve communications between drivers and terminals, and would lead to enhanced coordination of freight pickup and delivery. Prior to the wireless solution, coordinating driver pickups and gathering tonnage information was a manual and time-consuming process.

### The Solution

The solution called for cellular phones and a telecommunications carrier.

Since regular and timely voice communications with drivers is an integral part of the company business structure, and because drivers already have cell phones, the plan was to build upon the existing communications infrastructure. A GUI front-end was developed internally for use by the dispatchers with a WAP solution via a web server for drivers. All components connect directly to the Saia host AS/400 system.

Pickups are entered via the terminal, centralized customer service, EDI or the Saia website, and appear in real time on the dispatcher's screen. Dispatchers can then point and click to assign a specific driver to the pickup. The driver is notified on his cellular phone that he has a new pickup and receives all the pertinent information to review.

When the driver makes the pickup and delivery at the customer location, the information is entered into the phone via a user-friendly "Pick and Choose" option. The customer information is immediately updated in the AS/400 system.

Saia saw immediate benefits from providing delivery information to customers within minutes of delivery. This information is available to Saia customers in real time via the Saia website or through a call to a customer service representative. A reduction in clerical costs was immediately seen due to the driver entering sufficient shipping information to create a "skeleton" bill. A night biller who compares the bills of lading to the driver-entered bill then enters complete billing information and completes the billing process.

Previously, night terminal or central office employees billed these shipments manually at a premium of time and expense.

Saia saw additional benefits for its linehaul group by having faster and more accurate tonnage pickup and destination data. This ensures better planning and a potential reduction of night shipping schedules to move the freight to its destination. ■

SAIA® MOTOR FREIGHT INC.

Deploying Wireless Mobility in the Enterprise

# Cox Communications, Inc.

## FAST FACTS

**Cox Communications, Inc.**
Atlanta, GA
www.cox.com

**"The Enterprise is continuing to harvest the benefits provided by our secured wireless communications infrastructure. Current plans include expanding access beyond work dispatch to additional corporate applications and adoption by a wider array of mobile workers."**

AL BRIGGS, DIRECTOR, MOBILE SOLUTION SERVICES, COX COMMUNICATIONS

COX COMMUNICATIONS

*Your Friend in the Digital Age.*

Cox Communications is devoted to creating the best customer experience possible. They found that customer satisfaction largely depends on Cox Field Operations' ability to quickly respond to customer needs through effective "truck rolls"—delivering the right service to a customer by the right technician at the right time. To help drive field service efficiency, Cox uses a workforce administration (WFA) system that assigns work orders to field service representatives based on a number of attributes including skills, availability and proximity. Approximately 90% of the work orders are routed through the system, with only 10% of orders requiring manual processing.

Cox Field Operations' WFA system capabilities include work order updating/closing, customer equipment activation, service modification, database reporting, GPS tracking, and wireless communications. By providing these tools for their mobile workforce, Cox reacts more quickly to customer needs, driving up customer satisfaction.

### The Challenge

Cox needed to provide seamless and secure field connectivity so mobile service representatives could receive dispatch information, regardless of their location. Cox also wanted to provide pervasive access to a variety of back-office administrative tools and the ability to remotely manage mobile worker devices and applications.

To achieve the needed coverage, Cox had migrated the majority of communications channels from a private radio network to various public carrier networks for wide area coverage, supplemented by private 802.11 networks to provide local access to bandwidth-intensive applications and to support device and application management. In order to enhance solution efficiency, Cox wanted all security and network connectivity to be managed without user intervention. Additionally, Cox wanted to extend the communication capability to contractors and workers in both wireline and wireless environments.

### The Solution

Cox chose a system that creates seamless, secure VPN access to network resources and provides an always-on connection as users roam between wired, wireless LAN and wireless wide area networks. It also operates on the variety of different mobile computing devices used by Cox, including notebooks, tablets and handheld computers. This solution successfully enabled increased productivity for field service workers, and its innate flexibility and scalability will allow Cox to extend its functionality to additional business groups.

By deploying their new solution, Cox has been able to create a more productive un-tethered communication experience for its mobile workforce. ■

FROM LEFT TO RIGHT: AL BRIGGS, DIRECTOR, MARK MANGLICMOT, APPLICATION ENGINEER, JIM JONES, SENIOR PROJECT MANAGER, SUNDEEP SUNNY, PROJECT MANAGER, MICHAEL KOVASH, SENIOR PROJECT MANAGER, JOHN SMILEY, EXECUTIVE DIRECTOR, JASON DZICZKOWSKI, PROJECT MANAGER

**These winners are distinguished by the ability of their IT organizations to map and meet line of business challenges through top-down planning for wireless infrastructure. They developed business processes that exploit mobile and wireless technologies while managing and controlling costs. They further demonstrated a unified vision which supports multiple platforms, applications and mobile devices.**

# pH Europe Ltd.

## FAST FACTS

ope Ltd.

ed Kingdo

**"Knowing the whereabouts of every container at any time allows us to respond to customer demands with unprecedented accuracy and efficiency."**

IVELINA IVANOVA,
ECTS MANAGER, pH EUROPE

pH Europe Ltd. is well known for a portfolio of transport container services that a growing roster of customers employ to deliver products ranging from chemicals and pharmaceuticals to foodstuffs and industrial parts. Customers including GSK, Sun Chemical, Avecia, Johnson Matthey, AllessaChemie, Methode and AH Marks rely on pH Europe's mission-critical transportation, storage and tracking services.

**The Challenge**

Two years ago, the company began researching RFID and GPS tracking as a way to optimize their supply chain processes and ensure that rental assets were prepared for service and quickly deployed. During the preliminary planning phase, it was thought that a GPS solution might provide the necessary location functionality for the project, but it was quickly determined that GPS alone would prove far too expensive in the long run.

The fact that GPS asset tags would also need their batteries recharged on a frequent basis would not allow a reasonable TCO. The evolving realization was that a hybrid RFID/cellular/GPS solution featuring long-range active RFID technology at the container level, and GPS/cellular at the truck level, would need to be defined. In addition, the system would need to be flexible enough to incorporate tomorrow's RFID, cellular, remote sensor and mesh network data. It would also need to be secure.

**The Solution**

By utilizing a data management platform, a systems integrator was able to configure a leading-edge solution that increases visibility into the company's container fleet. The solution features active RFID asset tags and readers operating at 433 MHz, an on-site 802.11 network, and integration with truck-based GPS and cellular data platforms. Today, pH Europe puts industrial containers into service at lightning speed, and can follow them as they interface with the supply chains of their customers.

The benefits realized over the last eight months by integrating RFID location and tracking to enhance supply chain visibility are many. Through real-time visibility of what is currently available in the warehouse and easy access to customer demand and trending data enabled by RFID, pH Europe is now able to plan ahead for the utilization of a particular asset and build schedules for its use.

Beyond the optimization of their internal wireless asset tracking system, pH Europe now can offer their own customers an "asset tracking service" whereby they track and monitor mission-critical assets as an additional revenue stream. Other internal benefits include: improved asset utilization, pricing flexibility and activity-based billing, reduced labor expenditures, reduced breakage and loss, improved service quality, reduced transportation costs, and better understanding of the customer and their operations. ■

FROM LEFT TO RIGHT: JACK CLEGHORN, SALES AND MARKETING DIRECTOR, IVELINA IVANOVA, PROJECTS MANAGER, AWARD PRESENTER, PAT HINDLEY, DIRECTOR, ANDREW BLACKWELL, DIRECTOR

pH Europe

Transforming the "Brick and Mortar" of the Enterprise

# Landstar System, Inc.

## FAST FACTS

**Landstar System, Inc.**
Jacksonville, FL
www.landstar.com

**"Wireless solutions like these enable Landstar to attract and retain small business owners and increase financial growth without adding employees."**

LARRY THOMAS, CIO
LANDSTAR SYSTEM, INC.

Since 1999, Landstar System, Inc. has delivered an average 27 percent return on capital. A major part of that achievement is the non-asset-based transportation provider's success in leveraging wireless technology.

### The Challenge

Landstar's business model combines wireless Internet and other technologies to support approximately 10,000 small business owners who provide safe, reliable truckload transportation services to various shippers throughout the world. Independent truck owner-operators and sales agents earn a percentage of the revenue generated from each load they haul. Landstar's success is contingent upon the success of these small business owners, and the company works diligently to provide them with the tools to compete in today's tough transportation industry.

### The Solution

In September 2000, Landstar launched a first-of-its-kind business-to-business cellular wireless data service in the North American transportation industry. Through cell phones and other web-enabled wireless devices, truck operators were able to access the company's freight board from the cabs of their trucks.

Truckers can update their load status using Landstar's natural language speech-enabled interactive voice response (IVR) system. The text-to-speech application communicates user-specific information via cell phone, including reminders regarding equipment inspections, license plate renewals and other critical deadlines. More than 1,000 sales agents send freight data to truck operators with a single click. Through text-to-speech capabilities truckers receive automated detailed voice messages regarding money-making freight opportunities on their cell phones.

Landstar monitors emerging technologies and appreciates WI-FI's potential as a significant player in the wireless arena. Last year, the company began installing free WI-FI cards in truckers' laptops and made the commitment to light up WI-FI hot spots at its remote orientation centers throughout the country. Those centers serve as safe havens for Landstar contractors, where in addition to using free laundry facilities and showers, truckers can now e-mail their families and friends, search for loads and research fuel discounts from their cab bunks at no charge.

The company also launched a mobile wireless document scanning program that enables laptop or home PC users to inexpensively scan in their paperwork. Landstar benefits from the reduction in personnel required to scan and process these images.

Landstar's mobile field staff uses handheld devices to access e-mail, resulting in improved productivity and communication with agents and customers. Landstar converted its traditional PBX phone systems at orientation centers and regional offices to VOIP, leveraging its investment in VOIP systems.

Landstar's pioneering approach to information dissemination has turbocharged its business model, making the firm a leader in the transportation industry. ■

A LANDSTAR SERVICE REPRESENTATIVE USING A WIRELESS DEVICE

the road to success
LANDSTAR

**The organizations that excelled in this area opened new realms of profitability and performance by transcending "brick and mortar" limitations. They extended the capabilities and productivity of workers outside the office environment. Moreover, they transformed their business models by driving down costs and streamlining additional processes.**

# Zipcar

## FAST FACTS

Zipcar

A

**"From backoffice maintenance to the superior member experience at each Zipcar, we have created a technology solution that is easier to use than an ATM, enabling us to bring car-sharing to the masses."**

ELL, VICE PRESIDENT
GINEERING, ZIPCAR

Zipcar is a car-sharing service based in Cambridge, Massachusetts. This innovative, membership-based service uses wireless technology to remotely monitor its assets and serve its customers. Hourly fees are as little as $8.50 per hour, and include gasoline, parking, XM Satellite Radio and even insurance. Zipcar technology is now being used in eight states and 21 North American cities. Its unique approach to an underserved consumer need has become a marketing success story. The company is also serving an increasing number of businesses who find the service an economical alternative to their own fleet or to using traditional car rentals.

### The Challenge

In order to meet its goals, Zipcar wanted to be able to remotely monitor vehicle use and status in an effort to protect its investment in vehicles. That meant building a reliable and secure system to control and monitor member access to Zipcar vehicles at the point of need. It also meant delivering on the promise that Zipcars are self-service, fully automated and very convenient to use.

CARL TASHIAN AND JONATHAN WOLFE, SENIOR ENGINEERS

It was critical that the company be able to accept member reservations and transmit data in real time to maximize the service's unique value, revenue and customer loyalty. Toward that end, Zipcar built a flexible system that would easily scale to new markets with increased demand and locations.

### The Solution

Zipcar administers everything from its Cambridge headquarters. Members can reserve a vehicle either online or by telephone. A proprietary embedded system installed in all Zipcar vehicles combines a proximity card reader and modem to receive reservations information.

The Zipcar reservation process is very secure and reliable because every member is issued a unique "Zipcard" upon joining. This Zipcard is authorized for use via a data network when a reservation is made. Zipcar members can reserve an available car near them, choosing from cars and locations within walking distance from their location. The Zipcard authorization process can occur within seconds of making a reservation. Members go to the location of the car they've reserved and hold their Zipcard in front of a proximity card reader in the car. Their membership and reservation is validated, and only then does the system unlock the car door and enable the ignition.

Members use the car, returning it to the same location, ready for the next reservation. Usage information is sent to Zipcar's servers and the member's account is automatically charged.

Zipcar's unique business model has been successfully launched and has garnered national media attention, which has lead to membership and revenues doubling in 2004. The company is pleased to report that Zipcar's reliable and secure vehicle access and monitoring systems have handled hundreds of thousands of self-service reservations.

In addition, accurate, timely vehicle use information has resulted in efficient revenue forecasting and payment collections. This good news on the financial front looks even better in light of the fact that Zipcar has reported that 39%-plus of members are so pleased with their service that they have either sold their cars or decided not to buy one. ■

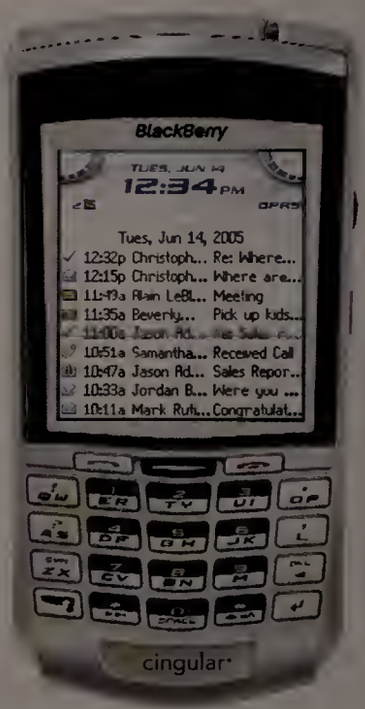
zipcar®

CINGULAR INTRODUCES THE BLACKBERRY 7100g™

# works like a phone. delivers like a BlackBerry.®

Get both in one sleek device with the BlackBerry 7100g™ from Cingular.

- Real-time access for up to 10 email accounts, calendar, contacts, and data
- Hands-free speakerphone capability
- Voice roam to over 150 countries and access data services in over 75 countries with the largest global coverage of any U.S. provider
- SureType™ intuitive software for easy, rapid text entry
- Bluetooth® wireless connectivity




BlackBerry 7100g

palmOne

Call 1-866-4CWS-B2B Click www.cingular.com/7100g Visit your nearest Cingular store

cingular raising the bar

**Coverage** not available in all areas. **Limited-time offer**. Other conditions and restrictions apply. See contract and rate plan brochure for details. Up to $36 activation fee applies. Phone price and availability may vary by market. **Early Termination Fee:** None if cancelled in first 30 days; thereafter, in FL, GA, SC, NC, KY, TN, MS, LA, AL, NY, and applicable parts of IN and NJ, $240 prorated over term; elsewhere, $150 flat rate. Some agents impose additional fees. **Sales tax** calculated based on price of unactivated phone. Additional hardware and software may be required. The BlackBerry and RIM families of related marks, images, and symbols are the exclusive properties of and trademarks or registered trademarks of Research In Motion Limited–used by permission. RIM and Research In Motion are registered in the U.S. Patent and Trademark Office and may be pending or registered in other countries. ©2005 Cingular Wireless. All rights reserved.

## Managing Cellular Mobile Data

**Winning in this category was dependent upon building and managing PDA-based mobile networks designed to remain compatible with enterprise needs on a long-term basis. This solution includes tapping into widespread deployment of nationwide carrier networks, selecting appropriate technologies, managing and auditing enterprise relationships with SLAs, and enforcing policies for the personal use of business devices.**

# PMI Mortgage Insurance Co.

### FAST FACTS

PMI Mortgage Insurance Co.
, A

**"Working together, our sales and IT teams created a wireless environment that allows our sales force to respond instantly, wherever they are. Customer support and feedback are at record levels of satisfaction as a result."**

ERTS, EXECUTIVE
RESIDENT AND CHIEF
MATION OFFICER,
MI MORTGAGE INSURANCE CO.

**The Challenge**

PMI Mortgage Insurance Co. wanted to provide better customer service internally (better tools and support to the sales force) and externally (to increase business and, ultimately, revenue), while maintaining costs and controlling security.

Their vision was to standardize technology while providing security to the organization and building a platform that could be expanded as business needs changed and sophistication of the workforce increased. The ultimate goal was providing a wireless environment where the company could communicate with their customers and report on them, wherever they are.

However, their ability to operate technology varied greatly within their group.

**The Solution**

PMI introduced and integrated a CRM solution and wireless communications system. The project could only be successful with IT and sales working together with the support of senior management.

They began a combined IT and Sales strategy to introduce laptops and a CRM solution. Over the course of eight weeks they brought every sales representative into headquarters and provided computer training and CRM orientation. They standardized the equipment and provided a secure network for the sales team to access company data.

The next step was wireless communication and cost controls. The handheld devices provided the means to get there. They negotiated a company rate for data and voice plans. They also could control access and devised a way to "zap" a device if lost or stolen. Further, with the software they employed, they could allow mobile, wireless access to their CRM solution.

The result was a completely wireless platform that allowed PMI to better communicate internally and externally while reducing costs. As for the proof, with one bill, they can manage the costs of telecommunications and monitor usage of company property. The cost of deploying the handheld devices was cheaper than deploying a cell phone and separate PDA to all their sales representatives. The savings was several tens of thousands of dollars.

PMI can now better communicate with its customers. In the past, sales reps could only respond to e-mail at night, on their own computers. Often, the delay could cost the company business, as a customer would call someone else if they did not get a response. Sales can now respond instantly. Customer support and feedback are at record levels of satisfaction. Increased production with some of their biggest lenders is attributable to better service levels. This has increased premiums and had a direct impact on top line growth.

STANDING FROM LEFT TO RIGHT: LAURA AMATO, DELAND MAYNARD, ERIK VESNESKI, STEPHANIE CORNS
BOTTOM FROM LEFT TO RIGHT: CARL TAM, DAVID LIM

In summary, PMI customer management and information has increased—they know more about their customers. Working together, sales and IT have affected the top line and expense line, ultimately improving their bottom line. ■

PMI

Opinion

# Vertical Horizon

MARK HALL IS A COMPUTERWORLD EDITOR AT LARGE. CONTACT HIM AT MARK_HALL@COMPUTERWORLD.COM

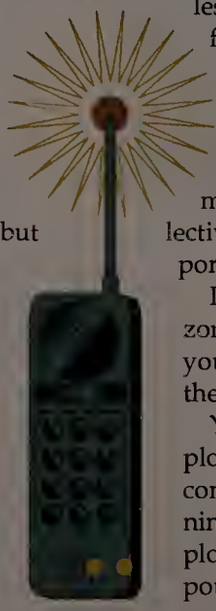
Overworked CIOs should refuse to support end users' wireless devices unless the handhelds are for a specific business requirement. And saving hotshot executives a few minutes of their precious time so they can thumb their way through e-mail while waiting in airport security lines isn't a business requirement.

But don't start practicing polite but firm ways to say no just yet. That's because the wireless industry will be unleashing in the coming months and years a slew of vertically focused products designed to deliver true business value and not just gee-whiz convenience.

As a result, handheld wireless devices have the potential to shake the foundation of IT much like PCs did so long ago. Just as the PC disrupted corporate IT by appealing to broad numbers of workers with horizontal software like Excel and Word, wireless systems will similarly discombobulate your department by luring end users with claims that they can solve business-specific application needs.

This means you overworked CIOs are doomed to deal with wireless device proliferation. "No" won't be in your vocabulary. And you'll be hearing from your line-of-business peers about the ROI of the wireless applications they want. Real soon, I suspect, if you haven't already.

According to The Insight Research Corp. in Boonton, N.J., eight vertical markets — utilities, health care, transportation, communications, wholesale trade, retail trade, durable manufacturing and financial services — are poised to spend $7.6 billion in 2006 on wireless data services alone. That figure doesn't include the billions of dollars spent on the hardware and software designed for those markets. Nor does it include the billions more you'll spend in your collective budgets to secure and support these myriad devices.

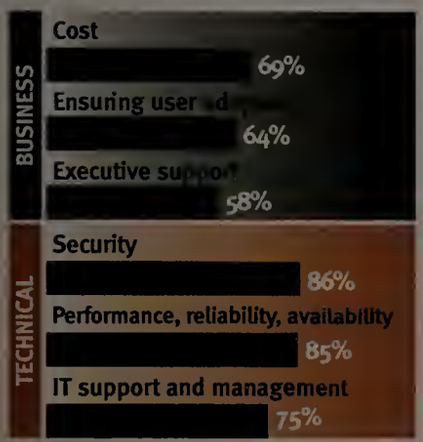


If the handhelds on your horizon merely meant more expense, you wouldn't have to worry. But they're much worse.

You'll be confronting the deployment and management of complex, n-tier applications running on a mix of largely unexplored operating systems. Compounding the problem is the end-

## Top Challenges

**The biggest management and technical challenges in mobile/wireless projects:**




Base: 522 IT decision-makers at North American companies; multiple responses allowed

SOURCE: IDC, FRAMINGHAM, MASS., OCTOBER 2004

less array of hardware configurations and suppliers that you'll get to choose from. Plus, you'll have to think very carefully about the added information-security burdens. You'll need to attract new people with wireless skills or train existing staff on new stuff. And you'll have to cull through an untested crop of consultants to find the gems who know your business and wireless technology.

This will be much, much more than just ordering instant messaging for your sales force from your cell phone service provider. It's a daunting process, one that might send many a current CIO into early retirement. But hold on.

"Don't panic," soothes Michael Mace, chief competitive officer at PalmSource in Sunnyvale, Calif. "You don't need a big wireless strategy now."

He says wireless technology is moving at such a fast pace that it would be unwise to cast your wireless policy in stone today. "Let it evolve," he says.

Mace, whose company develops the Palm operating system for many different wireless handheld makers, thinks you should "pick the low-hanging fruit" inside your company. That means driving wireless deployment programs that do what everybody knows IT does best: automate processes and eliminate paper. Field service staffers, claims Mace, are among your best candidates for wireless tools. Look to buy or develop wireless applications that improve the productivity of expensive workers in the field, reduce their data-entry errors and cut process costs, Mace says. It's an easy way to become a hero inside the company.

Brian DeMuy agrees. Field services is an ideal place for wireless applications. But "winning user adoption is huge," adds the manager of business development for new markets at Mobile Data Solutions in Richmond, British Columbia. Think through how those end users work. Will they be using devices inside their vehicles or in all kinds of weather? Do they need a ruggedized unit? The hardware's form factor may be just as important as the software it runs, DeMuy warns. In most cases, the field service staff won't be nimble-thumbed teenagers. Make sure the data-entry process is dead simple.

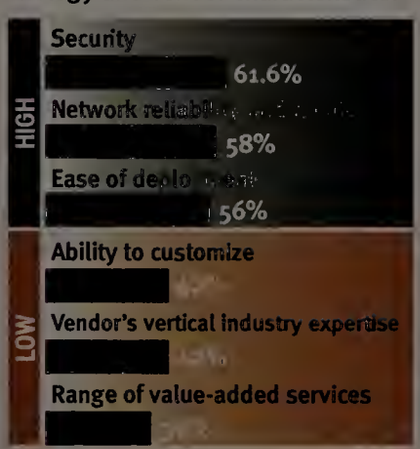
One more bit of advice from DeMuy: If you support union workers in the field, don't try to bypass them. Get the union on board and involved in the device-selection process.

Training will be key, too, agree DeMuy and Mace. Whether you support callous-handed journeymen working atop telephone poles in ice storms or soft-handed heart surgeons, it's likely that whatever wireless handheld device and application you give them will be a brand-new experience.

You won't be the only person suffering through the upheaval wireless technology brings. End users will need a lot of hand-holding for their handhelds. Be kind. ■

## Customer Satisfaction

**Users rated their satisfaction with the following mobile/wireless technology and vendor characteristics:**

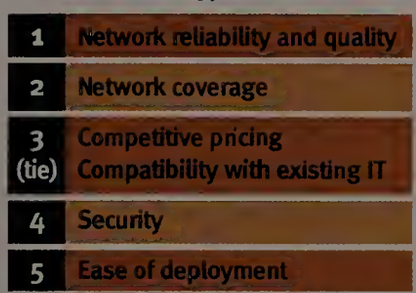



Base: 464 IT decision-makers at North American companies; multiple responses allowed

SOURCE: IDC, FRAMINGHAM, MASS., OCTOBER 2004

## Selection Criteria

**Enterprise users say these are the most important selection criteria for mobile/wireless technology vendors:**




Base: 519 IT decision-makers at North American companies; multiple responses allowed

SOURCE: IDC, FRAMINGHAM, MASS., OCTOBER 2004

**This article was published in the May 16, 2005 issue of Computerworld by Editor at Large, Mark Hall. It appears as an "opinion" on key considerations and challenges IT Leaders contend with in implementing "Best Practice" mobile and wireless solutions.**

# Great solutions for a mobile workforce.

intel inside
centrino
MOBILE TECHNOLOGY

**Today, on the job means on the go. From retail and healthcare to government and education, mobilized computing solutions featuring Intel® Centrino™ Mobile Technology are taking workers to places they could only imagine before. This powerful new combination of mobile devices, mobilized software applications and wireless networks helps drive down costs—and extends the capabilities of every mobile worker.**

**Learn more about where technology can take your organization at:**

**www.intel.com/go/mobilizedsolutions**

intel®

Intel, the Intel logo, Intel Centrino and the Intel Centrino logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
© Copyright 2005 Intel Corporation.

have to draw them in. So their vision is constant, but the message keeps changing.

Let's think about an architect who is trying to break down the old "I have a project, let's just get on with it" thinking in his company:

- To the executive who controls the money, he talks about how to get that project done in a way that delivers more of a return over time.
- To the leaders of the work area, he talks about making things easier so that they can do their work. (Depending on the type of work, *creativity* or *analysis* may be key words.)
- To the development team, he talks about how what he is doing will open doors for them.
- To the other architects, he talks about things such as "taking your wins when you can get them" and "let's get some of it today; we'll get the rest of it later." (Remember, the perfect solution is the enemy of the good solution — the one you can actually get accomplished now.)

One vision — that of a proper, orderly, structured enterprise business architecture with organized information and well-designed solutions — is communicated and "sold" in many ways. Oddly enough, none of the achievers I've talked to mentioned "architecture" directly (at least in the early days). Each delivered messages tailored to give recipients something to grab on to that they were comfortable with — money, work, process, technical competence — and something they could sign up for — results.

If "they" don't get it, what are you doing to lead them? **55779**

THORNTON A. MAY

# IT Workers Confront 'Job Shock'

THIRTY-FIVE years ago, my former boss Alvin Toffler coined the term *future shock* to describe the shattering stress and disorientation experienced by individuals when they are subjected to too much change in too short a time. While working on a multiyear project examining the future of IT work, researchers at the IT Leadership Academy discovered a related concept — "job shock," the vocational vertigo IT professionals are just now beginning to experience as their careers and developmental aspirations slam full throttle into a radically changed and rapidly transforming world of IT work.

**THORNTON A. MAY** is a longtime industry observer, management consultant and commentator. Contact him at **thorntonamay@aol.com.**

The first thing the research revealed is that *IT work* and *IT jobs* aren't synonyms. The work of IT is increasing — more bits are being moved, manipulated, transformed, stored, personalized and protected. They are sent to more places, to more people and for more purposes than ever before. This fact hasn't made it into public consciousness. There is more work to do. But there may not be more jobs to handle that work.

Any B-school professor can recount hundreds of stories about why students are in class and not in the workforce. It's not unusual to hear things like, "Four years ago, I was making $180,000 designing Web sites. That work is now being done in India." Truth be told, that work is probably being done by users themselves with the aid of smart machines. One of the major transformations taking place in the IT industry is automation. IT work that used to have IT jobs attached to it is now being automated and done by the end user.

Laura Tyson, former dean of the Haas School of Business at the University of California, Berkeley, and former chairman of the Council of Economic Advisers during the Clinton administration, is always quick to remind the "antimachine" people among us that the invention of the automobile eliminated thousands of jobs in the buggy industry but created even more jobs in the fledgling auto industry.

That's historically true, and Jeremy Rifkin, author of *The End of Work*, agrees that "the Information Age will create many new products and services." But, he adds, "unlike the past, however, when mass labor was required to produce these goods, in the future, they will be churned out in nearly workerless factories and be marketed by nearly virtual companies." This is a very real worry.

Serious-minded and very smart future-thinkers are pondering the questions: What if paid IT employment was to steadily disappear? What would become of the men and women for whom such employment, especially good jobs, was a central organizing element in their lives?

If you wanted to continue to feed yourself, you'd need to do three things:

**1.** Network with the people in your local economy who best understand the trends and current economic "rents" associated with a given set of skills — the IT staffing firms. They have great data and would love to talk to you.

**2.** Understand the next three strategic steps your organization is going to make, and build deep personal relationships with the executive platoons that are going to drive those initiatives.

**3.** Get yourself trained and educated.

You will face pressure from machines getting smarter, similar-skilled global labor alternatives getting cheaper and executives paying less attention (if that is possible). Knowledge and networking will help you through the trauma of job shock. **55756**

## WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site:
**www.computerworld.com/columns**

# READERS' LETTERS

## AMD Users Rush to Vendor's Defense

**I'VE BEEN** on AMD for four years now. My Athlon 1400 still outperforms the lower-end Pentium 4s. Don Tennant's article "AMD: All My Disgust" [QuickLink 55310] mirrors suspicions that I've had for the past two years.

Intel has never played by the rules. It is desperately pushing its ill-fated Pentium 4, yet in benchmarking tests, the Xeon is better for almost everything users want to do. Intel was the first to have dual dies on the processor.

AMD was the first to have dual-core. Furthermore, AMD learned from Apple's long and distinguished history of multiprocessor computing. In the Power Mac G5, the two processors, though they were separate, were very closely tied. Each could access the other chip's cache. AMD took this notion a step further. The two cores in an AMD chip are actually capable of communicating with each other. Each core has its own separate cache and memory. Intel cut corners while AMD took an extra month and delivered a product that was what it said it was: dual-core nirvana.

**Chris Miller**
*Lead programmer, Firestorm Development Group International, Pleasanton, Calif., lordsauronthegreat@gmail.com*

**I CAN** readily agree with the first two things that anger Tennant, but to say that it is the victim's fault for being beat up by the bully is ridiculous. AMD never had the resources to outmarket Intel, and no degree of marketing within AMD's scope would have changed Intel's direct assault on its customers' bottom lines. Do you really believe that Gateway CEO Ted Waitt would have said, "Hell no, damn the bottom line, I want AMD!" Not likely.

**Tom Cook**
*Analyst, Thomasville, N.C.*

## Encouraged by Open-Source Effort

**IT WAS** really encouraging to read the Security Manager's Journal "Eyeing an Opening for Open-Source" [QuickLink 55015]. I have often fought for embracing open-source where integration is not as important as conformity to standards. Good luck to C.J. Kelly in her projects, and this will definitely motivate me to keep up the fight.

**Femi Ogundimu**
*Atlanta, femialpha@gmail.com*

## Hard Drives Are The Weakest Link

**AS AN AVID** laptop user, I have seen that what really fails on laptops is the hard drive. Has Seagate managed to make its hard drives unkillable ["Seagate Preps Hard-Disk Encryption Technology," QuickLink a6560]? If not, then what do we do when the hard drive goes bad? I change laptops only because of hard drive failure, usually a year to a year and a half after purchase. At that point, I get a brand-new computer and send the hard drive out to be recovered. This new security technology is no good if it is self-contained and unrecoverable. It would have been better to have a software portion of the technology that is hardware-independent.

**David Somner**
*Hollywood, Fla.*

**COMPUTERWORLD** welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

For more letters on these and other topics, go to
**www.computerworld.com/letters**

# SOMEDAY, THE PROMISE OF BI WILL BE MET.

# WELCOME TO SOMEDAY.

*Business Intelligence* made a promise: to make it simple for everyone to use information to make better decisions. But, given your complex IT infrastructure, the reality of getting a single BI standard in place across the company has been anything but simple. Until now.

Introducing Cognos 8 Business Intelligence, the one solution built to break down the barriers limiting BI's potential. With a complete Web Services-based SOA. A simple browser-based interface. A full range of BI capabilities — reporting, analysis, scorecarding, dashboarding and more — all in a single product and on a single architecture. And the BI foundation for companies demanding a simpler path to a complete performance management system.

It's everything BI promised to be. And now, it's here.
Learn more today at cognos.com/simple

**COGNOS 8 BUSINESS INTELLIGENCE.**

Copyright © 2005 Cognos Incorporated. All rights reserved.

# 8.0

NO LIMITATIONS. NO IMITATIONS.

**LAUNCHING SEPTEMBER 14**

New York
London
Paris
Toronto
San Francisco
Chicago
Munich
Amsterdam
Stockholm
Buenos Aires

**GLOBAL TOUR**

Atlanta
Boston
Calgary
Charlotte
Chicago
Cincinnati
Cleveland
Dallas
Denver
Detroit
Washington D.C.
Edmonton
Fort Lauderdale
Halifax
Hartford
Houston
Indianapolis
Iselin
Los Angeles
Milwaukee
Minneapolis
Montreal
Nashville
Ottawa
Philadelphia
Phoenix
Pittsburgh
Portland
Quebec City
Richmond
Rochester
San Antonio
Seattle
St. Louis
Tampa
Toronto
Vancouver
Victoria
Winnipeg

Amsterdam
Barcelona
Basel
Bern
Brussels
Copenhagen
Dusseldorf
Frankfurt
Geneva
Gothenburg
Hamburg
Helsinki
Lausanne
Leipzig
London
Lyon
Madrid
Maloe
Manchester
Marseille
Milan
Moscow
Munich
Nantes
Oslo
Paris
Prague
Rome
Stavanger
Stockholm
Stuttgart
Utrecht
Vienna
Warsaw
Wurzburg
Zurich

Adelaide
Auckland
Brisbane
Canberra
Melbourne
Perth
Singapore
Sydney
Tokyo
Wellington

Bogota
Brasilia
Caracas
Guadalajara
Mexico City
Monterry
Panama City
Porto Alegre
Rio de Janeiro
Sao Paulo
Santiago

COGNOS

THE NEXT LEVEL OF PERFORMANCE™

HP PROLIANT
ML310 G2 SERVER

SAVE
$358

**$1,069**

- Intel® Pentium®4 Processor (3GHz, 800MHz)
- 1GB Total PC3200 DDR ECC SDRAM
- (2) 80GB SATA Hard Drives[1]
- 5U Tower with optional rack kit
- Hardware limited warranty, 1-year parts, 1-year labor, 1-year next-business-day on-site support

intel inside
pentium 4

NEW

HP STORAGEWORKS DAT 40
USB INTERNAL TAPE DRIVE

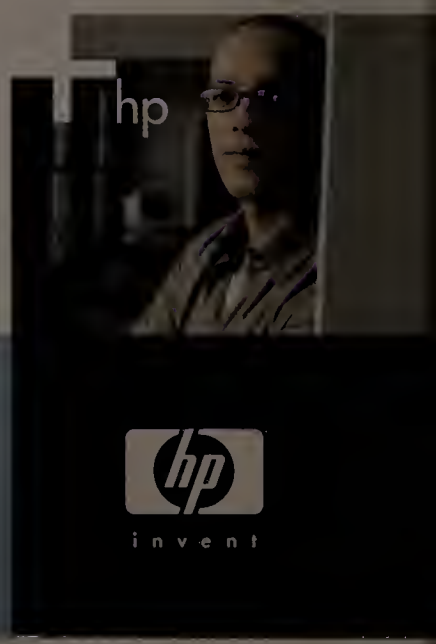
**$599**

- Easily connects to the ML310 internal USB port
- No more SCSI interface costs or complications
- Same performance, capacity and reliability as DAT 40 SCSI
- Includes HP's exclusive One-Button Disaster Recovery for quick server restores

# SUDDENLY YOU CAN APPRECIATE MICROMANAGERS.

Finally a micromanager you want around: the powerful and reliable HP ProLiant ML310 G2 server. Loaded with HP-developed manageability features and powered by the Intel® Pentium® 4 Processor, the ML310 is designed to minimize maintenance and maximize productivity. Just pop in the SmartStart CD to walk you through installation and get your system up and running. HP Systems Insight Manager will monitor your system and alert you to potential problems before they arise. Then leave it be—the optional remote management[2] tools let you keep track of your server no matter where you are. And, for a fast, easy backup solution, bundle it with the all-new HP StorageWorks DAT 40 USB internal tape drive. Just another reliable solution from the HP Smart Office Portfolio.

**SMART ADVICE > SMART TECHNOLOGY > SMART SUPPORT**




**Three-year Care Pack**
Add three years, next-business-day on-site support for $199

**Visit our Web site to download a free guide:**
*Getting Started with HP Systems Insight Manager.*

Call **1-888-291-0364**
Click **hp.com/go/ML330mag2**
Contact **your local reseller**

Prices shown are HP Direct prices; reseller and retail prices may vary. Prices shown are subject to change and do not include applicable state and local taxes or shipping to recipient's address. Offers cannot be combined with any other offer or discount, are good while supplies last and are available from HP Direct and participating HP resellers. All featured offers available in U.S. only. Savings based on HP published list price of configure-to-order equivalent ($1,427 - $358 instant savings = $1,069). Certain warranty restrictions and exclusions may apply. For complete warranty details, call 1-800-345-1518 (U.S.). 1. For hard drives, GB=billion bytes. 2. Optional Remote Insight Lights-Out Edition II (RILOE II). Intel, Intel Inside, the Intel Inside Logo and Intel Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. ©2005 Hewlett-Packard Development Company, L.P.

FUTURE WATCH

**Thanks for the (Future) Memories**

Technologies now in research labs could eventually replace conventional computer memory architectures. One possibility: do-everything memories. **Page 25**

SECURITY MANAGER'S JOURNAL

**User's End Run Around VPN Leads to New Push**

A worm crawls into the network when an employee accesses the VPN improperly. Now Mathias Thurman has to figure out how to avoid a repeat. **Page 29**

OPINION

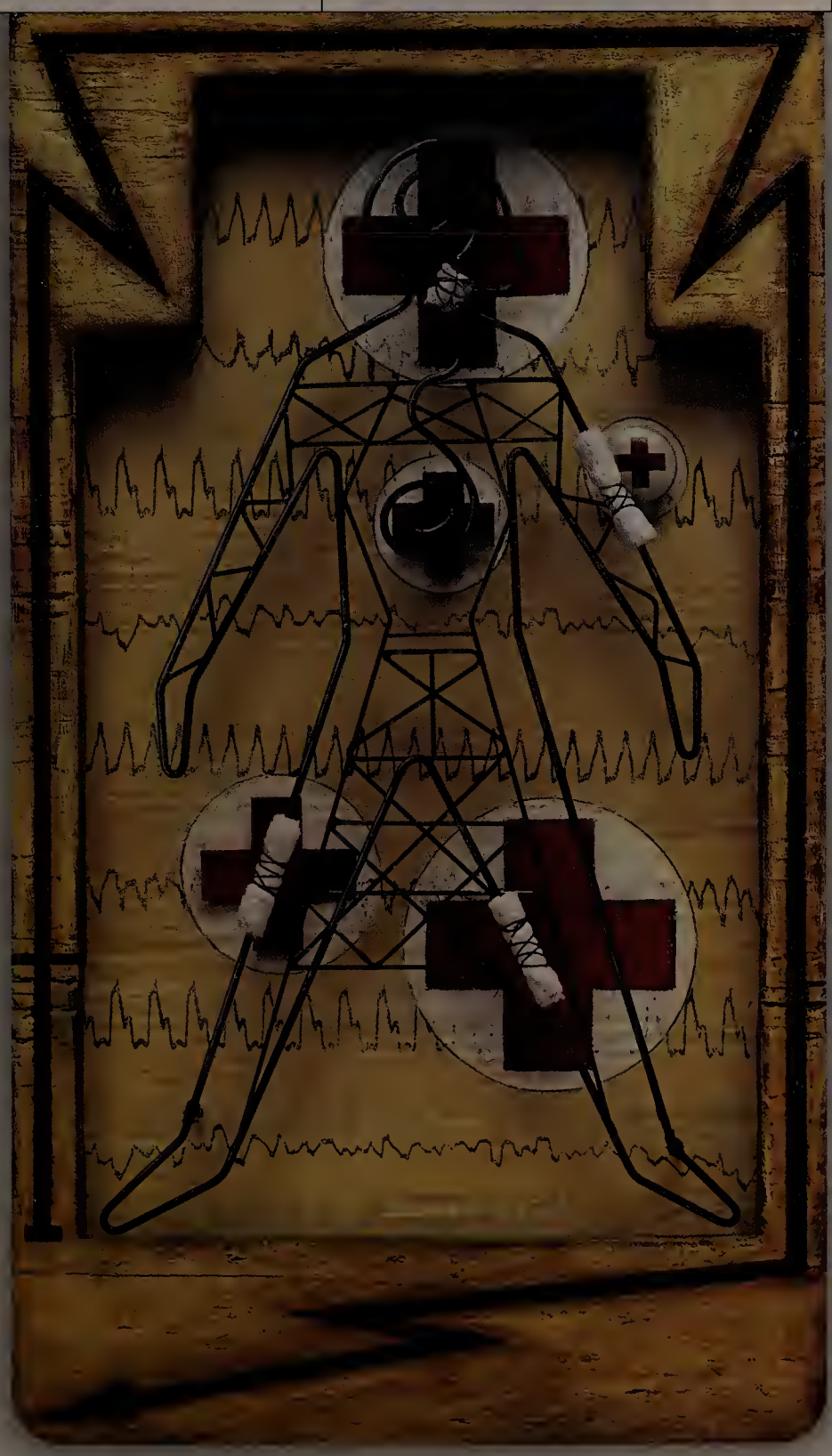
**A Convert With a Crush on His Mac**

Douglas Schweitzer celebrates his second (very happy) anniversary as a Macintosh user. **Page 30**

# Healing Power

**The U.S. electric grid** is still years away from being intelligent enough to prevent blackouts and other disruptions. But there are existing and emerging technologies that can help it to repair itself.

**BY THOMAS HOFFMAN**



MARIA RENDON

THE AUGUST 2003 blackout that left nearly 50 million people without electricity in much of the Northeastern U.S. and the Canadian province of Ontario did have at least one positive effect: It pushed the North American power industry to work harder to create a self-healing electric grid.

Problem is, the distribution grid that connects dozens of utilities and regional transmission organizations (RTO) with residential and commercial customers "is almost nowhere near" self-healing status, says Doug Fitchett, distribution research and development program manager at American Electric Power Co. in Columbus, Ohio.

"Think about your personal computer and the Internet. If your computer malfunctions while surfing the Net, you don't bring the World Wide Web to its knees," says Tim Healy, chairman and CEO of EnerNOC Inc., a Boston-based provider of demand response technologies used by the power industry (see box, bottom of page 24). "Similarly, if you hit the wrong key at your office and your screen turns blue and freezes your system, you don't usually cause the rest of the office or your local-area network to grind to a halt."

But it's a different scenario with the nation's nonadaptive electric network, which is prone to a cascade of problems when one critical component, such as a transformer, fails, says Healy.

"I'd venture to say that we're 5% to 10% of the way there, but not as the result of one centralized orchestrated effort," says Zarko Sumic, an analyst at Gartner Inc. Current technologies, such as software algorithms used to identify equipment failures and then react to them, could help the electric industry get about halfway toward achieving a self-healing grid, Sumic adds.

The management of the nation's electric grid "is largely still done at the human level," says Ron Ambrosio, research manager for the energy and utility industry at IBM.

Ambrosio and other industry experts say a variety of existing and emerging technologies could go a long way toward helping the U.S. develop a self-healing electric grid. They include software that could be used to examine patterns of electrical use to help predict demand; intelligent sensors that could be installed on transformers and other components to detect and report on equipment problems; and systems that could be used during peak demand periods to notify industrial customers that they should curtail their use of electricity.

But there are several technical and business factors that are impeding

*Continued on page 24*

ThinkPad recommends Microsoft® Windows® XP Professional.

# RECOVERS YOUR WORK IN MINUTES.
# RESTORES YOUR SANITY IN AN INSTANT.

Availability: All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors. ***Pricing:** Prices do not include tax or shipping or recycling fees and are subject to change without notice. Reseller prices may vary. **Warranty:** For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn: Dept UF2A/B203. Lenovo makes no representation or warranty regarding third party products or services. **Footnotes: (1) Mobile Processors:** Power management reduces processor speed when in battery mode. **(2) Wireless:** based on IEEE 802.11a, 802.11b and 802.11g respectively. An adapter with 11a/b, 11b/g or 11a/b/g can communicate on either/any of these listed formats respectively; the actual connection will be based on the access point to which it connects. **(3) Included** software may differ from its retail version (if available), and may not include user manuals or all program functionality. License agreements may apply. **(4) Memory:** For PCs without a separate video card, memory supports both system and video. Accessible system memory is up to 64MB less than the amount stated, depending on video mode. **(5) Hard drive:** GB = billion bytes. Accessible capacity is less; up to 4GB is service partition. **(7) Thinness:** may vary at certain points on the system. **(8) Travel Weight:** includes battery and optional travel bezel instead of standard optical drive in Ultrabay bay, if applicable; weight may vary due to vendor components, manufacturing process and options. **(9) Internet access required; not included. (10) Embedded Security Subsystem:** requires software download. **(11) Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges. **(12) Systems with limited onsite**

MOBILE TECHNOLOGY

## RESCUE AND RECOVERY. ONLY ON A THINKPAD.

Maybe you've had a virus attack. Or a software installation failure. Or your operating system's been corrupted. Just press the blue button on any ThinkPad® notebook and a range of tools comes to the rescue. It's called Rescue and Recovery™. Standard on all new ThinkPad notebooks*, it can get you up and running even when your operating system's down. So work with a feeling of confidence. Instead of that sinking feeling.

### ThinkPad R50e

**DISTINCTIVE INNOVATIONS**
Rescue and Recovery – one button recovery and restore solution

**SYSTEM FEATURES**
Intel® Centrino™ Mobile Technology
Intel® Pentium® M Processor 725 (1.60GHz)[1]
Intel® PRO/Wireless 2200BG (802.11b/g)[2]
Microsoft® Windows® XP Professional[3]
15" XGA TFT Display (1024x768)
256MB DDR SDRAM[4], 40GB Hard Drive[5]

**$999*** (P/N 1842QDU)

**ThinkPad Premiere Leather Carrying Case**
**$99** (P/N 10K0209)

### ThinkPad X40

Thinnest and lightest ThinkPad ultraportable ever.

**DISTINCTIVE INNOVATIONS**
Embedded Security Subsystem 2.0 – Strong security as a standard feature

**SYSTEM FEATURES**
Intel® Centrino™ Mobile Technology
Intel® Pentium® M Processor ULV 733 (1.10GHz)
Intel® PRO/Wireless 2200BG (802.11b/g)
Microsoft® Windows® XP Professional
256MB DDR SDRAM, 30GB Hard Drive
Only .94" thin[7] and 2.7-lb travel weight[8]

**$1499** (P/N 2386BHU)

**ThinkPad Women's Executive Red Leather Tote**
**$130** (P/N 22P8858)

With the Think Express Program, ThinkPad notebooks are preconfigured with your business, and your budget, in mind.

**To shop or locate your local reseller**
**Call 1 866-426-0009**
**Go to thinkpad.com/shop/m583**

ThinkPad®

**ThinkPad is a product of Lenovo.**

**service:** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts. A technician will only be sent onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges. **Trademarks:** The following are trademarks of Lenovo: ThinkPad, ThinkCentre and UltraConnect. IBM and IBM logo are registered trademarks of IBM and are used under license. Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, Pentium, and Pentium III Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Other company, product and service names may be trademarks or service marks of other companies. ©2005 Lenovo. All rights reserved
**Visit www.lenovo.com/safecomputing periodically for the latest information on safe and effective computing.**

*Continued from page 21*

progress toward a more reliable grid, say Fitchett and other industry executives. For starters, the electric industry needs a stable communications backbone so that relays and other devices on the grid that sense problems like generation overloads can communicate more effectively and reliably with one another.

The current communications infrastructure used by the U.S. electric industry is multilayered. RTOs that operate regional grids each run primary and backup voice and data networks both within their regions and between other RTOs and themselves, says Michael Bryson, manager of transmission at Valley Forge, Pa.-based PJM Interconnection LLC. PJM is an RTO that supports 51 million people in 13 Eastern states and the District of Columbia.

In addition, many utilities have implemented their own private data networks so that in the event of any disruptions to public networks, "there's still communications within the electric industry," says Bryson. In 2000, for example, PJM implemented PJMnet, a private frame-relay network that carries the bulk of its computer data and some of its voice support. PJM uses public data networks as a backup to PJMnet, he says.

Besides concerns about the reliability of public data networks, utilities also have security issues to contend with. As power companies begin to install intelligent sensors on transformers and other pieces of equipment to communicate information about outages and other problems using public networks, systems become more vulnerable to cyberterrorists, notes Bryson.

The most secure form of communications involves fiber-optic technology. But it's expensive — it can cost a $20,000 to $30,000 per mile to connect electric substations with a control center, "and some of our stations are 40, 50 miles apart," says Fitchett. Besides, there's a reluctance among utilities to invest in fiber optics, since there isn't a clear return on investment, he adds.

Meanwhile, wireless communications networks could be cheaper to use than fiber-optic networks, but they have reliability and security shortcomings, says Fitchett.

"What a lot of utilities are beginning to realize is that we're going to need a hybrid system, like a Wi-Max to a mesh network of 800 MHz — maybe even some power line technologies," such as broadband-over-power-line communications systems, says Fitchett.

Bryson says he believes the power industry will move toward a publish-and-subscribe communications system over the next five to 10 years. Such systems are more efficient than IP-based networks, since utilities that subscribe to them access only the information they need, he says.

## Smart Sensors

At present, most utilities discover power outages only after customers call to report them. Power companies "don't have sensors to know if electricity is flowing to everyone's homes," says Don Von Dollen, technical integration manager at the Electric Power Research Institute in Palo Alto, Calif.

In 2003, EPRI launched the IntelliGrid Consortium, a group made up of vendors and utilities, including Consolidated Edison Inc. and the Bonneville Power Administration, that's working to develop an intelligent power grid.

The idea would be for the electric industry to install sensors on switches and other equipment and connect them to public and private communications networks. The sensors could then quickly alert utilities and RTOs about equipment malfunctions or anomalies that might lead to a power disruption.

But while intelligent sensors are now available to monitor and report on the status of transformers and other electric equipment, they're expensive, making it prohibitive for utilities to deploy them on thousands of switches and pieces of equipment tethered by thousands of miles of power lines.

"We need a $10 device, and they're in the hundreds and even thousands [of dollars] range," says Fitchett.

Meanwhile, the uncertain regulatory environment has led utilities executives to question whether steep investments in sensors will be justified by their returns, says Rick Nicholson, an analyst at market research firm Energy Insights, a division of IDC. Plus, there's no regulatory authority that requires utilities to invest in these kinds of technologies, he adds.

From 2000 to 2002, U.S. utilities invested a paltry 0.12% to 0.18% of their revenue in research and development, according to EPRI. In comparison, Fortune 500 drug companies spent an average of 12.5% of their annual revenue on R&D during that time.

Widespread deployment of equipment sensors would raise other technical challenges. For instance, the more sensors that are deployed, the more data there is to extricate and manage, notes Von Dollen. Moreover, there's no central regulatory authority, such as the Federal Energy Regulatory Commission, that's required to gather and monitor that kind of data.

Members of the IntelliGrid Consortium are looking at establishing "decentralized substations" for collecting and processing sensory data from more than 150,000 miles of transmission lines across the U.S. and then funneling that information to a central location for data analysis, says Von Dollen.

"You need a rugged sensor that can be exposed to the elements that doesn't cost a lot of money," says Von Dollen. "That's a tough challenge."

For its part, PJM "has a pretty sophisticated" energy management system that's capable of examining thousands of data points at a time across its 13-state grid, says Bryson. "But we're reaching the limits on computing power to be able to crunch this data," he adds.

In the end, the future of a self-healing grid is largely dependent on the amount of money utilities are willing to invest in new technologies. Says Nicholson, "I'm skeptical about this moving forward without incentives for utilities to make these investments." **55643**

### Relay Rewind

When the August 2003 blackout began, there was a cascading effect on other utilities and RTOs. But one RTO that was able to insulate most of its 51 million customers was **PJM Interconnection**, thanks in large part to 20-to-30-year-old relays deployed in its regional grid.

PJM serves customers from North Carolina to New Jersey and as far west as Illinois. System relays in northern New Jersey and southern New York were able to sense power overloads and automatically disconnect the PJM system from the New York system, says Michael Bryson, PJM's manager of transmission.

Although some customers in northern New Jersey did end up losing power because of the disconnects, the older relay technologies "did exactly what they were supposed to do," says Bryson.

*– Thomas Hoffman*

### Research Links

Here are links to two Web sites with information about research activities that the Electric Power Research Institute and other organizations are conducting to find ways to help the U.S. power industry develop an intelligent, self-healing electric grid.

**www.epri-intelligrid.com/intelligrid/home.jsp**
A public-private partnership launched by EPRI that's aimed at transforming the nation's electric distribution delivery system into an intelligent infrastructure.

**www.gridwise.org**
A consortium of public and private stakeholders such as Consolidated Edison Inc., IBM and General Electric Co. that's evaluating how IT can be used to help transform the nation's electric grid.

## Sample Systems

### SHORT-TERM WEATHER ANALYTICS

**Vendor:** IBM
**Location:** Armonk, N.Y.
**What it is:** IBM is developing model-based software called Deep Thunder that's designed to help utilities determine in advance where they may need to send repair crews during a storm. The software provides a detailed analysis of locations where thunderstorms are likely to occur and which transformers and other equipment might be vulnerable.

### DEMAND RESPONSE SYSTEM

**Vendor:** EnerNOC Inc.
**Location:** Boston
**How it works:** EnerNOC sells a combined hardware/software system to commercial and industrial electricity customers that are enrolled in voluntary energy reduction programs with their local utilities. If a utility needs customers to reduce their electricity consumption during a heat wave, it contacts EnerNOC. EnerNOC then sends a signal to the customer's utility meter advising it to reduce consumption. Also, EnerNOC's Site Server, a Linux-based system that's built on a J2EE platform, can turn off a customer's nonessential lighting or air conditioning units remotely from its Boston operations center via the Internet.

### ENTERPRISE NOTIFICATION SERVICE

**Vendor:** EnvoyWorldWide Inc.
**Location:** Bedford, Mass.
**How it works:** A message from a utility's energy management system is sent to EnvoyWorldWide. That message tells EnvoyWorldWide to contact commercial customers enrolled in an energy reduction program and advise them that they need to curtail power consumption. The EnvoyWorldWide notification system, which runs on HP DL360, CL380 and DL380 machines running Windows 2003 Server software, has a list with the names of the people to contact and information about how they want to be contacted. If the first person listed at a particular site doesn't respond, the rules-based system contacts the next one on the list.

2nd Annual

DMTF

# ENTERPRISE MANAGEMENT WORLD

SOLUTIONS FOR THE DATA CENTER

COMPUTERWORLD

# Distributed Management Solutions for Today's IT Data Center and Infrastructure

**September 12-14, 2005 • Bethesda North Marriott Hotel & Conference Center • North Bethesda, Maryland**

## Featured Speakers Include:

**JERRY BARTLETT**
Vice President, Application Development
Ameritrade

**BOB CARROLL**
Chief Information Officer
Apollo Group (The University of Phoenix)

**MICHAEL CRISAFULLI**
Vice President, Core Services
AOL Systems Operations

**CINDY S. HUGHES**
Chief Information Officer and Director of IT
Maryland Automobile Insurance Fund

**JIM HULL**
Vice President, Engineering Services
Mastercard International

**ROB MCCORMICK**
Chairman & CEO
SAVVIS

**JAIME SGUERRA**
Second Vice President & Chief Architect
Guardian Life

## Opening Visionary Presentation:

### Dynamic IT/Dynamic Enterprise

What the Next Generation IT Looks Like and How Customers Are Attacking the Migration

**FRANK GENS**
Senior Vice President, Research
IDC

## The Leading Executive Conference for:

- Enterprise IT Management
- Data Center Management
- Network Server and Storage Management
- Network and Communications Management
- Infrastructure and Data Architects
- Systems Integration Specialists
- Enterprise Security Management

To register or for more information, visit **www.emwusa.com/cw**

**Got an award-worthy data center project?**

Submit it for consideration by August 12th!

COMPUTERWORLD ENTERPRISE MANAGEMENT WORLD DMTF
**Best Practices IN ENTERPRISE MANAGEMENT**
AWARDS PROGRAM

Visit [illegible]m-usa.com/cw

*2005 Awards Program sponsored by* EMC² where information lives

Sponsors expected at Enterprise Management World 2005 include: As of 7/25/05

PLATINUM SPONSOR

BROADCOM. Connecting everything

EMC² where information lives

GOLD SPONSORS

CIENA Simply Smarter Light · Cisco Systems · intel · SAVVIS · symantec. · SYMBIUM · WysDM Software

SILVER SPONSORS

Avocent. · cyclades · DELL · hp invent · HITACHI Data Systems · SNIA · TeamQuest. Optimizing IT Performance · WBEM SOLUTIONS

MEDIA & ASSOCIATION SPONSORS

COMPUTERWORLD · IDC · IT toolbox · Trainer

"BEST PRACTICES" AWARDS PROGRAM SPONSORED BY:

EMC² where information lives

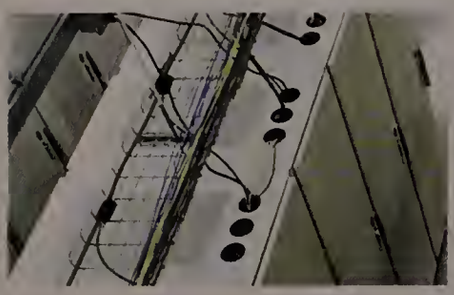
For sponsorship opportunities, call Leo Leger at 508-820-8212

Co-Owned and Endorsed by

DMTF

Co-Owned and Produced by

COMPUTERWORLD



# Distributed Management Solutions for Today's IT Data Center and Infrastructure

- **Gain insight to manage large, distributed data center IT infrastructure**
- **Identify and select the latest in data center and enterprise management technologies**
- **Hear the latest in server management, utility computing, and security**
- **Learn from best practices, case studies, and tutorials**

"The mission of the DMTF is well served by a conference dedicated to information and infrastructure management solutions. Enterprise Management World continues to address the challenges in expanding and managing data centers and communication networks. We invite our member companies, Alliance Partners and the industry at large to contribute to the advancement of this critical mission by participating."

Jim Turner
Cisco
Chairman, DMTF

## Why You Should Attend

Are you responsible for managing your company's data center assets? Want to exchange innovative ideas and strategies with other executives who share the same objectives? Then attend Enterprise Management World, where you'll network with and learn from renowned experts and the nation's top user executives.

## What You'll Learn

In this executive-forum setting, you'll hear directly from executives and managers in user companies.

- Gain first-hand experience for understanding and addressing the critical business challenges for data center and enterprise management
- Hear from users and suppliers of management applications that support the infrastructures of successful enterprises and organizations (database, Internet, email, ERP and other critical applications)
- Discuss and witness practical strategies for justifying, designing, building, or enhancing their infrastructure of computers, networks (LAN, MAN, WAN), networked storage and telecommunications
- Understand core management technologies such as CIM (Common Information Model), WBEM (Web-Based Enterprise Management) and SMASH (Systems Management Architecture for Server Hardware) as well as other leading initiatives in key areas including Utility Computing
- Learn about other technologies and the latest tools and applications
- Take away actionable information for making better data center and enterprise management decisions with speed and confidence
- Examine the industry's major issues and challenges along with the "Road Map" of the DMTF and its Alliance Partners
- Network with other IT executives and budgeted implementors to meet potential partners and converge with the industry-wide analyst and press community
- Plan on attending the IDC Analyst Briefing, Essential IT Strategies For 2005: Setting The Foundation For Maximum Value (for enterprise vendors).

## Featuring...

### DMTF Tutorial Track

Attendees will learn about existing and emerging new management standards and how they will impact their business, including: SMASH and the new Command Line Protocol; Common Information Model Schema for Policy, Networking and Core elements; Web Services Management; SMI-S and the next major version of CIM - 3.0.

### Virtual Data Center Tour

Learn the secrets of successful data center management during EMW's "Virtual Tour" of one of the country's top data centers. Award-winning technology experts will be at EMW, providing you with a sneak peek into the complex global IT operations at a critical site for this multi-billion dollar company, which is consistently ranked as one of the most innovative users of information technology. Attendees will learn about how the industry's leading distributed management standards and technologies can help improve their global operations, increase ROI, and give them the business intelligence needed to stay competitive in today's marketplace.

### Technology Demos

See today's latest distributed management solutions in action at EMW's interactive technology demonstrations. Offering a showcase of the industry's leading standards and technologies, which address the complexity of distributed management, the EMW demos will provide real insights into how you can innovate in your IT data center and infrastructure. Come experience live demonstrations that may include technologies based on CIM, SMASH, WBEM, SMI-S and management of Web Services, while meeting with industry experts who can help you better understand how these standards and technologies will help you to manage your data center more effectively.

2nd Annual

DMTF

ENTERPRISE MANAGEMENT WORLD

SOLUTIONS FOR THE DATA CENTER

COMPUTERWORLD

# Conference At-a-Glance *(subject to change)*

For details, updates, and to register visit **www.emwusa.com/cw**

## MONDAY, SEPTEMBER 12

Registration Open 7:00am - 8:30pm

| | |
|---|---|
| 10:00am – 11:00am | **Industry Primer** |
| 11:00am – 12:00pm | **Analyst Overviews** |
| Noon – 1:00pm | "Birds of a Feather" Lunch |
| 1:00pm – 5:00pm | **Concurrent Tracks; Voice of the User, DMTF Technical Tutorial and Deployable Solutions Tracks** |
| 7:00pm – 9:00pm | Welcome Reception |

## TUESDAY, SEPTEMBER 13

Registration Open 7:00am - 8:00pm

| | |
|---|---|
| 7:00am – 8:00am | Breakfast |
| 8:00am – 8:15am | **Opening Remarks** |
| 8:15am – 9:00am | **Dynamic IT/Dynamic Enterprise: What the Next Generation IT Looks Like and How Customers Are Attacking the Migration**<br>Frank Gens, Senior Vice President, Research, IDC |
| 9:00am – 12:00pm | **General Sessions** |
| Noon – 1:30pm | Luncheon |
| 1:30pm – 3:15pm | **General Sessions** |
| 3:15pm – 3:30pm | Break |
| 3:30pm – 5:20pm | **Concurrent Tracks; Voice of the User, DMTF Technical Tutorial and Deployable Solutions Tracks** |
| 5:30pm – 8:30pm | **Expo and Technology Showcase with Dinner** |

## WEDNESDAY, SEPTEMBER 14

Registration Open 7:00am - 6:00pm

| | |
|---|---|
| 7:00am – 8:00am | Breakfast |
| 8:00am – 8:15am | **Opening Remarks** |
| 8:15am – Noon | **General Sessions** |
| 12:00pm – 1:30pm | **Expo and Technology Showcase with Lunch** |
| 1:30pm – 3:15pm | **IDC Analyst Briefing** |
| 3:15pm – 3:30pm | Break |
| 3:30pm – 5:20pm | **Concurrent Tracks; Voice of the User, DMTF Technical Tutorial and Deployable Solutions Tracks** |
| 5:30pm – 6:30pm | **Expo and Technology Showcase** |
| 7:00pm – 9:00pm | **Gala Evening with "Best Practices" Awards Ceremony, Dinner and Entertainment** |

**Bethesda North Marriott Hotel & Conference Center**
North Bethesda, Maryland

## Hotel Reservations and Travel Services

Global Odysseys is the official travel company for Enterprise Management World. They are your one-stop shop for exclusive discounted rates on hotel accommodations.

To reserve your accommodations, visit: **www.etcentral.com**

You can also call our conference housing line at: **1-888-254-1597**

Global Odysseys
Meetings & Incentives

DMTF To learn more about the Distributed Management Task Force, visit **www.dmtf.org**

"Enterprise management is a business area where it is challenging to stimulate collaborative interactivity. There just are not a lot of opportunities to meet with colleagues from other firms and share experiences. EMW provides the forum where you can find new innovations and practical experiences from other technical managers who have accomplished real world changes and can help you translate their experiences into your reality."

Irving Tyler
Quaker Chemical
Vice President & CIO

"EMW is a great gathering of high-caliber IT talent. When you attend these conferences, you're guaranteed plenty of detailed, useful information, but without the hype, which helps technology professionals stay ahead of important industry trends. Worth every minute."

Ronald V. Rose
Priceline.com
CIO

"EMW is important because it's one of the few places where people are actively discussing the critical issues of data center management: environment, security and connectivity. EMW is a great forum for CIOs to pick their heads up from their day to day operations and become aware that they are not alone in their concerns and issues, which are in fact shared across all industries and verticals."

H. Jameson Holcombe
Globix
CTO

2nd Annual DMTF

ENTERPRISE MANAGEMENT WORLD
SOLUTIONS FOR THE DATA CENTER
COMPUTERWORLD

**September 12-14, 2005**
Bethesda North Marriott Hotel & Conference Center
North Bethesda, Maryland

# Application for Conference Registration

**Fax this completed application to 1-508-820-8254 or apply online at: www.emwusa.com/cw**

**Your business card is REQUIRED to process your application**

Please affix your business card to this space prior to submitting your application. Applications submitted without business cards will not be processed.

**Questions? Call 1-800-883-9090**

**If not indicated on your business card, please provide the following required information:**

Corporate Email Address

Corporate Website

**Registration questions?**
Call 1-800-883-9090 or email emwreg@computerworld.com

**Need accommodations?**
Reserve them at: **www.etcentral.com**
Or call 1-888-254-1597
or email: eventhousing@globalodysseys.com

| Please check ONE of the following: | **Earlybird Registration** (through July 18, 2005) | **Full/Onsite Registration** (after July 18, 2005) |
|---|---|---|
| ❑ **I am an IT End-User*** (Complete Attendee Profile below) | ❑ **$795** General Conference Package (includes General Conference Sessions, Expo, Meals & Receptions) | ❑ **$995** General Conference Package (includes General Conference Sessions, Expo, Meals & Receptions) |

* IT End-Users are defined as those who are attending Enterprise Management World with an intent (and an IT spending budget) to potentially buy/lease hardware/software/services, etc. from our conference sponsors and are not themselves an IT vendor. As such, account representatives, business development personnel, analysts, consultants and anyone else attending who does not have IT purchasing influence within their organization are excluded from the "IT End-User" designation. Interpretation and enforcement of this policy are at the sole discretion of Computerworld.

**Attendee Profile:** This section MUST be completed by IT End-Users and Channel Partners/Integrators/Consultants only (optional for all other registrations) in order to process your application.

**Your Business/Industry**
- ❑ Aerospace
- ❑ Manufacturing & Process Industries (non-computer related)
- ❑ Finance/Banking/Accounting
- ❑ Insurance/Real Estate/Legal Services
- ❑ Government: Federal (including Military)
- ❑ Government: State or Local
- ❑ Health/Medical/Dental Services
- ❑ Retailer/Wholesaler/Distributor (non-computer related)
- ❑ Transportation/Utilities
- ❑ Communication Carriers (ISP, Telecom, Data Comm, TV/Cable)
- ❑ Construction/Architecture/Engineering
- ❑ Data Processing Services
- ❑ Education
- ❑ Agriculture/Forestry/Fisheries
- ❑ Mining/Oil/Gas
- ❑ Travel/Hospitality/Recreation/Entertainment
- ❑ Publishing/Broadcast/Advertising/ Public Relations/Marketing
- ❑ Research/Development Lab
- ❑ Business Services/Consultant (non-computer related)
- ❑ Manufacturing of Computers, Communications, Peripheral Equipment or Software

**Your Job Title/Function: IT MANAGEMENT**
- ❑ CIO, CTO, CSO
- ❑ Executive VP, Senior VP
- ❑ Vice President
- ❑ Director
- ❑ Manager/Other IT Manager
- ❑ Supervisor

**BUSINESS MANAGEMENT**
- ❑ CEO, COO, Chairman, President
- ❑ CFO, Controller, Treasurer
- ❑ Executive VP, Senior VP, VP, General Manager
- ❑ Director, Manager
- ❑ Other Corporate/Business Manager

**Number of employees in your entire organization (ALL locations)**
- ❑ 20,000 or more
- ❑ 10,000 - 19,999
- ❑ 5,000 - 9,999
- ❑ 1,000 - 4,999
- ❑ 500 - 999
- ❑ 100 - 499
- ❑ 50 - 99
- ❑ Less than 50

**What is your organization's annual IT/IS budget for all IT/IS products?**
- ❑ $1 Billion or more
- ❑ $500 Million - $999.9 Million
- ❑ $100 Million - $499.9 Million
- ❑ $50 Million - $99.9 Million
- ❑ $10 Million - $49.9 Million
- ❑ $1 Million - $9.9 Million
- ❑ $500,000 - $999,999
- ❑ $250,000 - $499,999
- ❑ $100,000 - $249,999
- ❑ Less than $100,000

**What is the estimatad annual revenue of your entire organization?**
- ❑ Over $10 Billion
- ❑ $1 Billion - $9.9 Billion
- ❑ $500 Million - $999 Million
- ❑ $100 Million - $499 Million
- ❑ Less than $100 Million

**The one item that best describes your involvement in the IT purchase process**
- ❑ Authorize/approve purchase
- ❑ Evaluate/recommend products, brands, vendors
- ❑ Specify features/technical requirements
- ❑ Set budget for expenditures
- ❑ Determine need to purchase
- ❑ Create IT strategy
- ❑ All of the above

**Do you need hotal accommodations?**
- ❑ Yes (please visit www.etcentral.com to reserve)
- ❑ No

**Would you like to receive a complimentary subscription to Computerworld?**
- ❑ Yes
- ❑ No

| ❑ **My company is Sponsoring/ Exhibiting at EMW** | ❑ **$795** (through July 18, 2005) General Conference Package (includes General Conference Sessions, Expo, Meals & Receptions) | ❑ **$995** (after July 18, 2005) General Conference Package (includes General Conference Sessions, Expo, Meals & Receptions) |
|---|---|---|

As a sponsor, you may be eligible to attend using a registration provided with your sponsorship. (If those registrations have already been assigned/used, then you may register at the prevailing rates above.) See the current list of sponsors at www.emwusa.com. Questions? Call 1-800-883-9090 or email emwreg@computerworld.com.

❑ **I am a representative of a Non-Sponsoring IT Vendor Company**

- ❑ **$1,990 Technical Professional Package*** excludes Sales, Marketing and Business Development Professionals (includes General Conference Sessions, Expo, Meals & Receptions) *up to 2 registrants per company
- ❑ **$5,000 Business Development Professional Package** for Sales, Marketing and Business Development Professionals (includes General Conference Sessions, Expo, Meals & Receptions)

Vendors are encouraged to participate in Enterprise Management World through sponsorship. (Details are available by calling Leo Leger at 508-820-8212.) Alternatively, vendors (as well as other "non-IT end-user" professionals as defined by Computerworld), may apply for registration at the "non-sponsoring vendor" rate of $5,000. Determination of what constitutes a "non-sponsoring vendor" registration is made exclusively by Computerworld. Please call 888-239-4505 with questions.

❑ **I am a Financial/Equity Analyst and/or Venture Capital Professional**

- ❑ **$795** (through July 18, 2005) General Conference Package (includes General Conference Sessions, Expo, Meals & Receptions)
- ❑ **$995** (after July 18, 2005) General Conference Package (includes General Conference Sessions, Expo, Meals & Receptions)

❑ **I am a qualified member of the press.** I can verify my press credentials.
Press should call Colin Longval at 508-820-8665.

**Please fax this completed application to 1-508-820-8254**

## Payment Method

❑ **Check** (checks must be received by August 22, 2005 payable to: Computerworld)
Mail to: Computerworld, Attn: Mike Barbato, One Speen Street, Framingham, MA 01701

❑ **American Express** ❑ **VISA** ❑ **MasterCard**

Account Number: _____

Expiration Date: _____

Card Holder Name: _____

Signature of Card Holder: _____

**Cancellation Policy** (All of the following require **written notification** by August 22, 2005.)
In the event of cancellation, the registrant has three options:
1) He or she may substitute another attendee for this conference.
2) He or she may transfer this registration to the Enterprise Management World 2006 conference.
3) The registration fee will be refunded, less a $250 service charge (if written notice is received by August 22, 2005).
Please send cancellation requests via email to: emwreg@computerworld.com

# THANKS FOR THE FUTURE MEMORIES

## Chip makers are searching for the Holy Grail: cheap, fast, 'universal' memories to replace DRAM, SRAM and flash. BY ROBERT L. MITCHELL

FUTURE WATCH

**FOR COMPUTER** manufacturers, Moore's Law has been about getting something for nothing, and not just in processor chips.

For 40 years, systems designers have seen memory densities double every 18 to 24 months while memory chip prices have remained essentially flat, cutting the cost per bit in half each time. As the technical challenges of building ever-smaller memory cells in silicon have increased, however, some memory manufacturers have predicted that the cost curve will start to swing the other way before the end of the decade.

Researchers are working on several alternate technologies that could eventually replace those in the three memory types commonly used today: low-cost dynamic RAM (DRAM), used in PCs and servers; fast static RAM (SRAM), used for processor caches and mobile devices; and nonvolatile flash memory, used in everything from computer BIOSs to cell phones.

Researchers at IBM, Intel Corp. and other companies envision the development of a universal memory technology that could someday replace all three. "That's the Holy Grail," says William Gallagher, senior manager of exploratory and nonvolatile memories at IBM.

A universal memory technology could change how computers are designed, Gallagher says. For example, nonvolatile RAM could allow computers to boot up and power down instantly because stored information wouldn't be lost when power was. But the emergence of a universal memory technology is probably at least 10 to 15 years away, Gallagher says.

Others argue that a universal memory isn't possible because one memory type can't satisfy all needs. For example, nothing could be the fastest and cheapest at the same time.

Most research today is focused on addressing the limitations of one memory technology at a time, such as flash. But some attributes of today's technologies will be hard to beat.

"Most technologies will probably not be able to compete on lowest cost per bit [against DRAM] or with the fastest SRAM. So they will fall into that space in between," says Bob Merritt, vice president of memory research at Semico Research Corp. in Phoenix.

Ferroelectric RAM (FRAM) and magnetoresistive RAM (MRAM) are the best-funded and most-evolved of the emerging memory technologies. FRAM is a nonvolatile RAM that was developed by Ramtron International Corp. in Colorado Springs. It's licensed by Texas Instruments Inc. and others. More than 30 million products have already shipped using FRAM, including metering, radio frequency identification and smart-card devices, according to Ramtron.

FRAM, which is based on nanoscale "quantum dots," uses less power and writes faster than DRAM or flash, and it has a long life span. But the technology remains 20 to 50 times more expensive per bit than DRAM, and chip density is far lower. Ramtron is prototyping 1Mbit parts today and hopes to push the technology to 4Mbit or 8Mbit in 2006. Until MRAM is ready for the market, however, FRAM is the only game in town for nonvolatile DRAM.

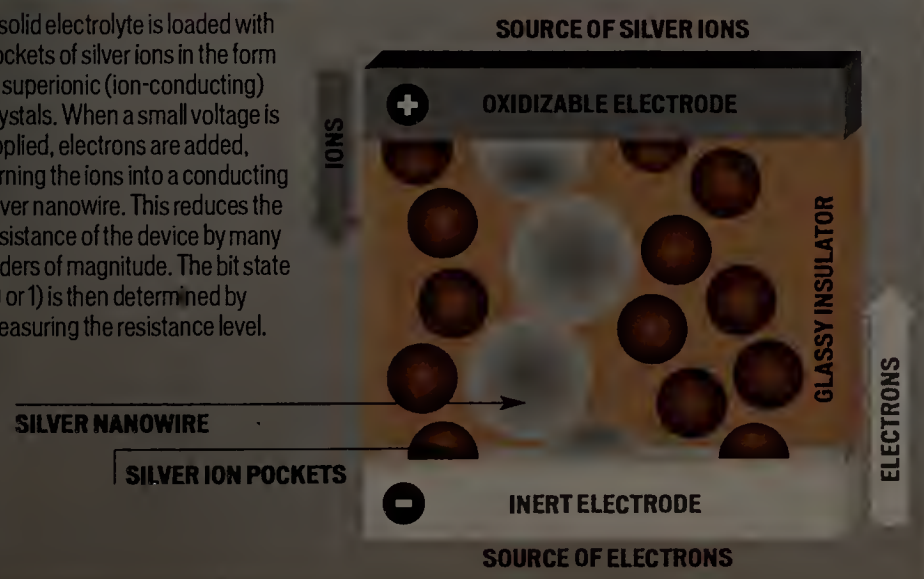
MRAM is closer to production than most other experimental memories, and IBM and Freescale Semiconductor Inc. are the leading MRAM developers. Gallagher calls the technology "magnetic storage on a chip" because it adapts the magnetic polarization techniques used in disk drives to silicon.

"It's fast, nonvolatile memory that offers a nice combination of high speed, high endurance and reasonable density," Gallagher says.

Chip samples can be produced at about the same density and cost per bit as flash. But while promoted as universal memory, the density of MRAM doesn't approach that of DRAM or SRAM. Most interest today

### HOW IT WORKS PMCm Memory

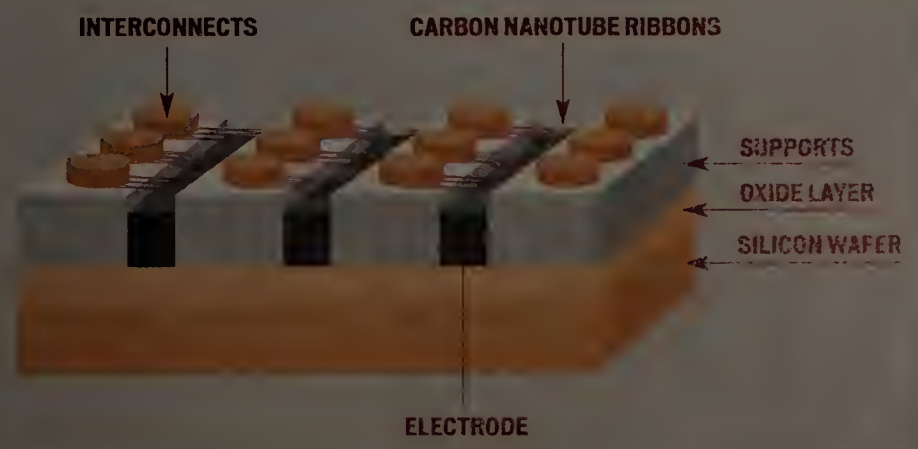
A solid electrolyte is loaded with pockets of silver ions in the form of superionic (ion-conducting) crystals. When a small voltage is applied, electrons are added, turning the ions into a conducting silver nanowire. This reduces the resistance of the device by many orders of magnitude. The bit state (0 or 1) is then determined by measuring the resistance level.




SOURCE: AXON TECHNOLOGIES INC

### HOW IT WORKS Nanotube Memory

Nantero's carbon nanotube RAM combines the nonvolatility of flash with the speed of SRAM and the density of DRAM. It works by lifting the nanotubes up and lowering them to make or break contact with a metal electrode below.




SOURCE: NANTERO INC.

is focused on embedded applications.

Several other challengers to conventional memory technologies look promising but are much earlier in their development cycles than FRAM or MRAM.

Phase-change memory (PCM) is a fast, nonvolatile memory that proponents claim could become a universal memory. IBM and Intel have each partnered with other companies to develop the technology.

A transistor in a PCM cell applies energy to either heat or cool the material, forcing it to change between an amorphous (high-resistance) and a crystalline (low-resistance) form. A current is then applied to measure the resistance and establish the state of the memory cell as a 0 or 1.

While PCM technology is much faster than flash, it's slower than SRAM. To be competitive with DRAM, it would also have to support unlimited writes. IBM's research shows that PCM can match flash's 100,000-write limit, but endurance beyond that hasn't been proved, says Gallagher. Ovonyx Inc. in Santa Clara, Calif., however, claims that its technology, called Ovonics, can be written to 10 trillion times, making it useful for DRAM as well as for flash.

Carbon nanotubes — hollow, tube-shaped lattices of carbon atoms — can be used to make a mechanical memory that works by bending the carbon filament up or down to make or break a connection between two electrodes (see illustration, page 25).

"We can combine the nonvolatility of flash with the speed of SRAM and the density of DRAM," says Greg Schmergel, co-founder, president and CEO of carbon nanotube pioneer Nantero Inc. in Woburn, Mass.

The technology can theoretically scale as small as 5 nanometers and has achieved speeds a few times faster than today's DRAM chips. Nanotube chips could be 10 to 15 times smaller than today's DRAM and could offer a tenfold reduction in power consumption. Initial products from partners such as LSI Logic Corp. are still two to five years away, Schmergel says.

Molecular memory, developed by ZettaCore Inc., uses a chemical process to create DRAM memory cells with a molecular capacitor. The "chemically self-assembling" molecules work by adding and removing electrons. This changes the voltage, which is then measured to determine the state (0 or 1). The technique supports four states and can store 2 bits per memory cell.

Molecular memories also require 70% less power than a standard DRAM memory cell because the capacitor can hold 100 times the charge and therefore needs to refresh memory less frequently, says Subodh Toprani, CEO of ZettaCore.

Molecular memory will allow manufacturers to double or quadruple capacity without increasing costs, Toprani says. He says he hopes to have a product available by 2007 or 2008.

Axon Technologies Inc.'s Programmable Metallization Cell memory (PMCm) is a DRAM alternative that's nonvolatile, uses less power and offers higher density than DRAM (see illustration, page 25). In it, tiny quantities of metal self-assemble into a filament as electrons are added to the metal ions. Resistance is then detected to determine the state of the memory cell.

"We don't store information as a charge; we store it as atoms," says Michael Kozicki, co-founder and chief technology officer at Scottsdale, Ariz.-based Axon.

Kozicki says he hopes to have the first "real design" available by 2007. "It looks like we won't cost any more than current DRAM," he says.

Ultimately, the ability to cost-effectively manufacture new memory technologies using existing fabrication facilities may separate the winners from the losers, says Semico's Merritt. To succeed, emerging technology vendors will initially focus on niche markets where they can coexist, rather than compete, with established vendors, and thereby continue to evolve.

"At the moment, all of those [technologies] look very powerful and doable," Merritt says. "But it's always the question of, Do they look so valid because they are, or because we haven't peeled enough layers of the onion yet?" The answers aren't likely to come before the end of the decade.

**55526**

## BIFURCATION BLUES

**LOW COST AND HIGH DENSITY** are the primary goals for memory for PCs and other AC-powered computers. But battery-powered mobile devices like laptops and cell phones place a premium on low power consumption and nonvolatile memory, which retains data when power is removed.

Today, the memory business is driven less by the PC and more by the mobile sector. "More nonvolatile memory bits will be shipped than volatile memory bits this year," says Bob Merritt, vice president of memory research at Semico Research.

Merritt says diverging market needs are likely to drive memory development in two directions. The market bifurcation could cut into the economies of scale that drive down DRAM prices, and thus the cycle of doubling memory density every 18 months without raising prices could end, he says.

But the high costs of developing and manufacturing memory mean that the industry can't afford to have radically different designs for different markets.

"You can't build a decent fab now for less than $3 billion," says Michael Kozicki, co-founder and CTO at Axon Technologies, so a common technology foundation will be needed. "Whoever wins this memory smack-down is going to end up being the memory that wins in both areas," he says.

*– Robert L. Mitchell*

## MANUFACTURING WOES

Visit our Web site to find out why making the newest memories is so hard:

**QuickLink 55710**
**www.computerworld.com**

## MEMORIES AT A GLANCE

| | PHASE-CHANGE MEMORY (PCM) | MOLECULAR MEMORY | PROGRAMMABLE METALLIZATION CELL MEMORY (PMCm) | CARBON NANOTUBES | MAGNETIC RAM (MRAM) | FERROELECTRIC RAM (FRAM) |
|---|---|---|---|---|---|---|
| What it promises | Nonvolatile memory that is faster and lasts longer than flash | Low-power, high-density DRAM that integrates into current manufacturing | Nonvolatile DRAM | Fast, nonvolatile, high-density DRAM | Nonvolatile SRAM alternative; fast, unlimited life; easily integrated | Nonvolatile DRAM; high speed, unlimited endurance; low power consumption |
| Applications | Flash, DRAM alternative | Embedded memory; conventional DRAM alternative | Mobile electronics; ultra-low-power systems; embedded nonvolatile memory with logic | Replace all existing memories (DRAM, flash, SRAM); replace hard drives | Replacement for flash and SRAM | High reliability in stressful environments (automotive, industrial controls, RAID, office and medical equipment) |
| Challenges | Requires higher programming current; more costly than flash | Must be proved in manufacturing | Hasn't been manufactured yet | Improving manufacturing yield | Low density, high cost | Higher cost and lower density than DRAM |
| Primary backers | IBM, Infineon Technologies, Macronix International, Intel, Ovonyx, Samsung, STMicroelectronics | ZettaCore | Axon Technologies, Micron, Infineon | Nantero, LSI Logic | IBM, Freescale Semiconductor, Infineon, Micromem Technologies, NEC, Toshiba, Samsung, Renesas | Ramtron International, Texas Instruments |
| Availability | Unknown | 2007-2008 | 2007 | 2007-2010 | Currently sampling | Available now |


SAS® gives Amazon.com®

# THE POWER TO KNOW

**how to provide millions of customers with a large selection, low prices and excellent service.**

It begins with your first visit to Amazon.com and continues through the arrival of every order. The unique online shopping experience you deserve, the selection you demand and the low prices that keep you coming back again and again. SAS is proud to provide the business intelligence and analytics software that helps Amazon.com keep costs low — and pass savings on to its customers — while providing excellent service. To learn more about Amazon.com and other SAS success stories that go *Beyond BI,* call 1 866 270 5740 or visit our Web site.

**www.sas.com/amazon**

sas®

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration. Other brand and product names are trademarks of their respective companies. © 2005 SAS Institute Inc. All rights reserved. 340841_S70[illegible]

# Geek's Garden

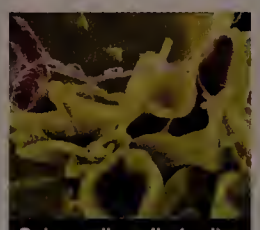
## A STROLL THROUGH THE TECHNOLOGY LANDSCAPE

### No More Playing Chicken With Bacteria

■ **RESEARCHERS AT THE** U.S. Department of Agriculture's Agricultural Research Service are working to improve computer models that help ensure that the chicken salad you buy from your local market is safe – and save food processing companies a lot of money as well.

Specifically, they're creating programs that analyze computer models of the growth and survival of campylobacter and salmonella – the two most common bacterial food pathogens – on chicken, which is the most consumed meat product in the U.S.

Working in the relatively new field of predictive microbiology, the scientists are homing in on the models that best forecast the behavior of food-borne pathogens in response to environmental conditions in food production and processing operations. Models are used by processors and regulatory agencies to make proper decisions about food safety.



Salmonella cells (red) invading human tissue.

With more than 1.4 million cases of salmonellosis food poisoning reported annually in the U.S., and with tons of most likely untainted food products thrown away each year, the stakes are high.

### Whaddaya Gonna Do? Getting Used to Spam

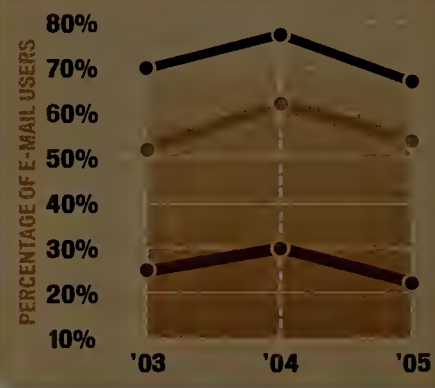
■ **E-MAIL USERS** are getting more spam, but they don't seem to mind it as much as they once did, according to a report from the Pew Internet and American Life Project. In a nationwide survey of 1,421 Internet users conducted earlier this year, 21% of the respondents who have work e-mail accounts said they are receiving more spam than they were a year ago, while 16% said they are getting less.

The majority of e-mail users surveyed, 53%, said that spam has made them less trusting of e-mail. When the same question was asked a year ago, however, 62% of the respondents said spam had undermined their trust. More spam, less distrust – go figure.

A whopping 67% of the people who responded to this year's survey said that spam makes being online unpleasant or annoying. But that's a significant improvement over last year's 77%.

**THE EFFECTS OF SPAM OVER TIME**

- Spam has reduced my use of e-mail.
- Spam has made me lose trust in the Internet.
- Spam has made being online unpleasant.

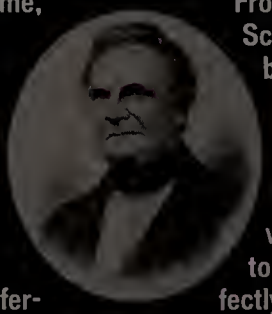



## DIFFERENCE ENGINES

### It All Started With Babbage

**THIS CORNER OF GEEK'S GARDEN will explore milestones in the history of computing – technologies that have made a significant difference. It seems appropriate to start with the original Difference Engine, first conceived in 1822 by the eccentric British mathematician Charles Babbage.**

**Babbage was looking for a way to automate the calculation of mathematical tables – logarithmic and trigonometric functions mostly. In his time, the tables were created by humans working slowly with primitive calculators. Impressed by Babbage's plans for his invention, the British government provided funding for the project but grew impatient with its slow progress and withdrew support several years later. By that time, Babbage had abandoned the original Difference Engine to work on his ideas for a more sophisticated Analytical Engine.**



**Between 1847 and 1849, Babbage returned to his original invention and produced improved plans for Difference Engine No. 2. Alas, the revised design wasn't built in Babbage's lifetime either – partially because of problems with machining accuracy and friction, but mostly because he continued to tinker with the design. Babbage's work, however, inspired Per Georg Scheutz to build several Difference Engines, and he even sold one to the British government in 1859.**

**From 1989 to 1991, the London Science Museum used Babbage's original drawings to painstakingly construct the first complete Difference Engine No. 2. The device was constructed in accord with 19th century machining tolerances and worked perfectly. The Difference Engine was able to produce calculations to 31 decimal places of accuracy. Such calculations did, however, require the operator to turn a mechanical crank hundreds, or even thousands, of times.** 55673

## GROVES OF ACADEMIA

### Berkeley Leads the Way to Little, Liquid Computing


1. Source reservoir
2. Gate metal
3. Drain reservoir
4. Source electrode
5. Drain electrode
6. $SiO_2$ layer
7. Si

■ **AT THE** University of California, Berkeley, researchers have created the first "nanofluidic" transistor, a device that allows them to control the movement of ions through submicroscopic, water-filled channels.

Just as the electronic transistor became the main component of microprocessors and integrated circuits, nanofluidic transistors will anchor molecular processors, allowing microscopic chemical plants on a chip that will operate without moving parts, say the inventors, mechanical engineering professor Arun Majumdar and chemistry professor Peidong Yang.

Cancer diagnosis is one of the early applications of the technology being explored by Majumdar and Yang. A nanoscale chemical analysis chip could, theoretically, take the contents of just 10 cancer cells and pull out protein markers that could alert doctors to the best way to attack the cancer.

The research team is investigating whether nanofluidic transistors will have the same capabilities as the metal-oxide semiconductor field effect transistors used in most of today's microprocessor chips, says Yang, though the new invention is a different information-processing device because it works at the molecular level.

Nanofluidic transistors could be made with the same technology used to produce integrated circuits, says Majumdar. And nanofluidic channels could be integrated with electronics on a single silicon chip, he adds.

Yang and Majumdar say their goal is to develop the first integrated circuit using nanofluidic transistors.

*Page compiled by Tommy Peterson.*

# User's End Run Around VPN Leads to New Push

## A worm crawls into the network when the VPN is accessed improperly. What can be done to avoid a repeat? By Mathias Thurman

ONCE AGAIN, I spent most of my week dealing with an outbreak of malicious code, and I'm now taking steps to avoid a similar problem in the future. This time, we were hit with the W32.Mytob.HH@mm worm. We had been hit with a similar worm a few weeks earlier; the main difference is that this version uses different ports to connect back to the Internet Relay Chat (IRC) channel.

Our intrusion-detection guru traced the infestation to a user connecting to the corporate network via the VPN from a local airport. I talked to the user, and he told me that he bypassed the recommended method of gaining remote access when he associated to a wireless access point at the airport. When he booted up his laptop, the access point showed up in his task bar, and he was automatically connected without any authentication.

The user said he did some work on the Internet before launching the VPN client, and that "work" included executing an .exe file from an e-mail he got stating that his account had been terminated. He had assumed the e-mail was from our human resources system; he had previously gotten a message directing him to change his password for the system, but he hadn't gotten around to doing that. When he clicked on the link called "account-details.exe," nothing seemed to happen.

Well, we now know exactly what happened. His laptop was infected, and when he connected to the corporate VPN, the worm propagated to our internal network.

**SECURITY MANAGER'S JOURNAL**

We tell users that the proper method for remote access, especially when traveling, is to use iPassConnect Universal Client from Redwood City, Calif.-based iPass Inc. We have configured iPassConnect so that after a user authenticates, it checks the system to ensure that both a desktop firewall and our virus-checking client are installed and running.

We also have the iPass client time out if the user doesn't authenticate to our corporate VPN within two minutes.

In addition, our VPN client forces the user to input his username and RSA SecurID token for authentication. Chances are good that if the user had followed these procedures at the airport, the malicious code he executed would have been spotted.

To enhance the security of our VPN infrastructure, we are installing Sunnyvale, Calif.-based Fortinet Inc.'s FortiGate appliance. We're already using these devices to protect our development lab environment, or rather to protect the corporate environment from the lab environment. At the insistence of the lab managers, our development labs don't conform to our corporate policies regarding host and network security, and things such as virus protection, patches, configuration management and secure baselines aren't used. The lab managers feel that they must be free to set up their environment as needed to properly test products.

**"We can't vouch for the security of systems accessing the VPN. Employees don't follow the rules."**

### Containment

Instead of fighting with them to conform, we decided it would be best to position one of the FortiGate appliances between the corporate network and the lab. Our hope is that if lab resources become infected, we can contain the infestation to the lab network.

This same reasoning is now being applied to the VPN segment. We can't vouch for the security of systems accessing the VPN. Employees don't follow the rules. We know that some of them have installed VPN software on their home systems. We've even seen cases of employees installing VPN software on systems in kiosks, libraries and customer sites. It's pretty ugly.

We're working on a method to ensure that only authorized company assets are permitted VPN access, but until we do some testing, we have to live with the current configuration.

Although the FortiGate appliance is ideal for detecting viruses, worms and Trojan horses, it can detect only what it knows about. It monitors all the network traffic that passes through it and looks for patterns or signatures that match what it knows to be "bad."

The problem is that some malicious code can be delivered in what is termed a "zero-day" attack, meaning that the code is written as soon as a vulnerability is identified, and it's sent out into the world before there are any antivirus signatures for it. Such malcode is easily propagated until the antivirus companies can get a hold of the code and write a signature.

With this problem in mind, I'm considering using a host-based intrusion-detection system, or HIDS. Almost all HIDS products "learn" the normal activity of a system. System calls, key-file manipulation, services, activity in the registry (if Windows NT), applications, network activity and several other areas are monitored for a period of time.

Once you put the HIDS into action, departures from normal activity are detected and action can be taken. So, for example, in the case of a zero-day worm, if the worm installs a new service, modifies the host file or opens a back channel to some obscure IRC server on the Internet, the HIDS will detect that activity, regardless of whether a signature has been written.

I haven't deployed a HIDS yet. The last time I tested these products, the HIDS agents caused an excessive amount of CPU utilization and our desktop firewalls had to be disabled. I decided at the time that deploying this technology to thousands of workstations wouldn't be in the best interest of the company. But I'll take a look at the HIDS product landscape within the next couple of weeks to see how the market has changed.

### WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum: **QuickLink a1590**

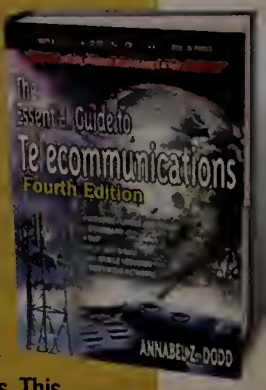
To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

## SECURITY LOG

### Security Bookshelf

■ *The Essential Guide to Telecommunications* (Fourth Edition), by Annabel Z. Dodd (Prentice Hall PTR, 2005). To be a good information security practitioner, you have to know a little about a lot of subjects. This book provides a reasonable amount of information on a wide variety of telecommunications topics. This edition is updated with key technologies such as voice over IP and the convergence of 3G technology and other wireless technologies. Although the book isn't as technical as I'd like, it does provide an abundance of information from both a technical and business point of view.

*– Mathias Thurman*




### Oracle Encryption Questioned

The standard encryption mechanism used by Oracle Corp.'s database products can be easily circumvented, according to German security researcher Alexander Kornbrust. The encryption features that come standard with Oracle's database are called DBMS Crypto and DBMS Obfuscation Toolkit. Oracle Director of Product Management Paul Needham acknowledged that for many Oracle installations, these encryption keys could be available to an attacker who gained access to a privileged database administrator account on the server.

### CA Acquires Qurb

Computer Associates International Inc. bolstered its security product line by acquiring e-mail security software vendor Qurb Inc. CA said it bought Qurb in an all-cash deal that will enable it to add Qurb's anti-spam, antiphishing and anti-fraud tools to CA's eTrust security management products.

## BRIEFS

### Symbol Announces Wireless Bridge

■ Symbol Technologies Inc. in Holtsville, N.Y., has announced the CB3000 Client Bridge, a device aimed at providing large companies with wireless connectivity in areas where installing Ethernet cable isn't an option. The bridge can link 16 Ethernet-enabled devices to a network, including printers, medical equipment, manufacturing machinery, time clocks or point-of-sale systems. It works over 802.11a, b and g networks and is priced at $285.

### BEA Enhances SOA in Tuxedo 9.0

■ BEA Systems Inc. has announced the general availability of BEA Tuxedo 9.0, which enhances security and support for service-oriented architectures to its high-end transaction-processing software. New features include tighter integration with BEA's WebLogic application server to provide cross-platform interoperability and integration with the AquaLogic enterprise service bus and Web services management tools, according to the company. The new version also includes features to boost security and quality of service. Pricing information wasn't available.

### Mobius Updates Integration Tool

■ Mobius Management Systems Inc. has unveiled Version 2.2 of its ViewDirect Total Content Integrator Web-services-based software, which allows access to content in any format from any source. The update adds connectors that allow ViewDirect to be used with content management applications such as IBM's DB2 Content Manager OnDemand, EMC Corp.'s Documentum and Microsoft Corp.'s SharePoint and SQL Server, according to the Rye, N.Y.-based vendor. The software starts at $80,000, plus $20,000 per repository adapter.

DOUGLAS SCHWEITZER

# A Convert With a Crush on His Mac

THIS MONTH, I celebrate an anniversary. No, not my wedding anniversary; that was last month. This anniversary marks my second as a Mac convert. Over the past two years, my Mac has lived up to all its promises and has never ceased to delight me.

One of the main reasons for my initial interest in the Mac was security. Having spent countless hours repairing my family's, friends' and co-workers' computers after the ravages of malware, it occurred to me that there must be a better alternative. With its Unix core, the Mac OS X operating system was very appealing to me.

Yeah, I tried several flavors of Linux but never could get any of them configured precisely the way I wanted.

When it comes to raw, out-of-the-box security, the Mac has you covered from the minute you plug it in. Most ports are closed by default, and like Windows XP, OS X comes with a built-in firewall that can be enabled with a few mouse clicks. As far as malware is concerned, well, there are very few viruses or pieces of spyware written that can infect a Mac machine. This isn't so for the PC. In fact, security vendor Sophos estimates that a brand-new, unprotected PC has about a 50-50 chance of getting infected within its first 12 minutes online. The Mac OS makes it hard for malware to get through.

For example, one of the ways malware is able to "hide" from users under Windows is via hidden file extensions. Many users aren't aware that even if you tell Windows to display all file extensions, there are still some that are hidden by default. To make matters worse, a Trojan horse or any installed program can reconfigure your extensions so that they are no longer hidden.

DOUGLAS SCHWEITZER is a freelance writer and Internet security specialist in Nesconset, N.Y. He can be reached at dougneak@juno.com.

Under OS X, you aren't permitted to hide a file's "real" extension if hiding it causes the file to appear to have a different extension. Furthermore, if you attempt to append an extension onto an application's true extension, the true extension will become revealed and you won't be able to hide it.

Let's say you have a file called MyApp.app. The common .app Mac extension is hidden by default. If you were to alter the .app extension by appending .jpg to the end of it, you would see MyApp.app.jpg without any changes to the operating system's default configuration. If you were to change the extension to read MyApp.jpg.app, the application would cease to work.

Another thing that helped in my decision to try a Mac was the abundance of applications available for OS X. My non-Mac constituents had warned me that there were so few Mac applications that I'd be certain to regret my switch. In fact, the most common justifications for not buying a Mac consist of a lack of software, a lack of games and compatibility issues. These excuses are simply myths and have no basis in fact. Just take a look around; there are thousands of applications available for Macs.

According to systems integrator James Clemens at the Babylon, N.Y., public library, his recent addition of eMacs into the library's large Windows environment proved that Macs could play just fine with PCs. From running Microsoft's Office suite to doing your taxes via TurboTax or TaxCut, Macs can do it all. When it comes to music, OS X has you covered, too. ITunes allows you to quickly build a playlist and burn that to a CD with just a few mouse clicks.

Don't get me wrong — I love Windows XP, and with all the changes of late, it's a secure and fairly stable operating system. But after two years of continuous operations, I've had to restart my Mac only once because it froze. And if total cost of ownership has you worried, fear not. In my experience, Macs are more stable and require less technical support than their Windows or Linux counterparts.

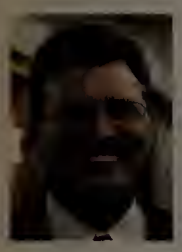
Whether it's freezing screens, blue screens, malware or spyware that has you down, be glad that an alternative is available. As cybersecurity and awareness guru Winn Schwartau says, "You don't have to take it anymore." So maybe it's time you gave Mac OS X a try. As I like to say, once you go Mac, you never go back! **55803**

### WANT OUR OPINION?

For more columns and links to our archives, go to **www.computerworld.com/opinions**

# MANAGEMENT





**BPO: Big Political Opportunity**
IT execs like Emcor's Peter Baker have the comprehensive view, process know-how and experience to take the lead in business process outsourcing. Here's how to do it — and why you should. **Page 33**

**Think Tank**
RFID is everywhere. Get ready for a world where RFID chips can be used to track food ingredients, fruit, shopping carts, soldiers, construction tools and gambling chips. **Page 36**

**Career Watch**
Hewlett-Packard CIO Gilles Bouchard answers readers' questions about pursuing training and getting that first IT job. Also, learn who really loves the IT department and whether offshoring is as prevalent as most people think. **Page 37**

# LOST, STOLEN OR STRAYED

RICHARD DOWNS

## The missing link in data security may have four wheels and a gas tank.

By Gary H. Anthes

**MOVING MAGNETIC TAPES** in and out of storage would seem to be the most mundane of IT functions. Indeed, companies have traditionally seen the transportation and storage of backup media as so routine that they have relegated it to non-IT personnel such as couriers or outsourced the job entirely. But that's changing now, following a rash of high-profile horror stories involving lost data that have been compounded by legislatures and courts that no longer buy the "the dog ate my tapes" excuses.

In February, Bank of America Corp. lost a tape with credit card information on 1.2 million customers. In April, Ameritrade Holding Corp. told 200,000 current and past customers that a tape containing confidential account information had been lost or destroyed in transit. Time Warner Inc. reported in May that 40 tapes containing personal data on 600,000 current and former employees had been lost en route to a storage facility. In June, Citigroup Inc. said that a box of tapes holding personal information on 3.9 million customers had disappeared on the way to a credit bureau.

And sometimes tapes go missing inside a company's four walls. In March, a Florida judge hearing a $2.7 billion lawsuit by financier Ronald Perelman against Morgan Stanley issued an "adverse inference order" against the company for "willful and gross abuse of its discovery obligations."

The judge cited Morgan Stanley for repeatedly finding misplaced tapes of e-mail messages long after the company had claimed that it had turned over all such tapes to the court.

In theory, there are straightforward ways to avoid these costly and embarrassing mishaps. But those measures, such as data encryption and backing up to remote sites via secure networks, have serious drawbacks, so it's likely that trucks full of tapes holding sensitive information will be roaming the roads for years to come.

## RISK IS NEVER ZERO

Driven in part by regulatory requirements, Excel Energy Inc. in Minneapolis backs up data to tape "in terabytes per week," according to Mike Carlson, vice president of business transfer and customer value. The tapes are taken off-site and stored by Iron Mountain Inc., a Boston-based records management and storage company.

Asked if his company is taking any special steps as a result of the recent highly publicized tape mishaps — Iron Mountain acknowledged that it lost the Time Warner tapes — Carlson says, "We are actively working with them to ensure that it's not a systematic glitch that puts us at risk." Nevertheless, there will always be some risk of human error, he says.

Iron Mountain performs at a 99.999% level of reliability in its media transportation and storage operations, says Ken Rubin, executive vice president for marketing. "Over the past 50 years, we have honed a chain of custody and inventory control process," he says. "We have basically automated out of the process nearly all of the exposure to human error, but not 100% of it."

A tape goes through several distinct phases as it moves between Iron Mountain and a customer, and each step is recorded via bar-code scans, Rubin says. There are other protections as well, such as special security systems and alarms in the company's trucks. Iron Mountain recently completed an audit of all its facilities and processes and pulled from service a few trucks that failed inspection, Rubin says.

Iron Mountain offers service-level agreements, such as one that guarantees times for returning a tape requested by a customer. But the company follows the standard industry practice of limiting its liability to the value of the physical media in its possession, not the content of the media. "The fees that Iron Mountain and all the vendors charge — basically pennies per tape per month — are nowhere near what would be required to take on any more liability than just for the media," Rubin says. Customers could buy separate insurance for content, but few do, he adds.

Rubin says the "best and most practical" way to protect confidentiality is to encrypt sensitive data before it's written to tape. And, he advises, "make sure that your methodology for moving tapes off-site has the best chain-of-custody processes imaginable."

Carlson says he has looked into Iron Mountain's Electronic Vaulting service, by which backup data is automatically encrypted and sent over a network to Iron Mountain. But the service isn't cost-effective for the very large amounts of data Excel Energy backs up, he says. Iron Mountain agrees that the service isn't practical for large backup needs.

Carlson says it's faster and cheaper to ship large amounts of data on tape via air or truck than it is to transmit it electronically. IBM runs a disaster recovery center on the East Coast for Excel that would require eight hours to bring online. That's easily enough time to fly tapes there from Excel's Colorado data center or from Iron Mountain, Carlson says.

Last year, nearly three quarters of 388 companies polled by Enterprise Strategy Group Inc. (ESG) in Milford, Mass., said they infrequently or never encrypt backup data written to tape.

In a report, ESG said it was surprised to learn that government agencies and big financial services companies are among the organizations least likely to employ backup encryption. "Bank of America did not encrypt its backup tapes and thus suffered an operations and public relations debacle, the costs of which may ultimately far exceed the cost and operational overhead of encrypting its backups," the research firm said.

## NEGLECTING STORAGE SECURITY

According to ESG, companies spend far more on network perimeter security than on storage security. But the report said that "the onslaught of publicly reported security breaches and impending legislation will cause a profound change in security investment priorities."

According to Steve Kenniston, vice president for corporate strategy at Iron Mountain, encrypting backup data takes time, and with an explosion in data at most companies, the time windows for backups are already squeezed. Although encryption offers better data security, he says, it may adversely affect data protection — that is, making sure backup data is available quickly and easily for recovery purposes.

Kenniston urges his customers to consider classifying data according to its function and sensitivity. For example, the most sensitive data, such as payroll records, might be encrypted and/or electronically vaulted, whereas other data might not justify the cost of those measures. But this kind of data discrimination isn't something IT shops have typically done as part of their backup processes, he says.

Rent-A-Center Inc., a Plano, Texas-based chain of 3,000 consumer-goods rental stores, produces 30 to 40 unencrypted backup tapes every day and turns them over to Iron Mountain. The company is now implementing a "stem-to-stern encryption process" based on 128-bit keys and hash signatures, which can be used to reveal whether the contents have been altered, says K.C. Condit, director of technical services.

"There is some overhead with encryption," which is why the company hasn't done it until now, says Condit. "There have been some technology concerns and some people concerns as well. But we are getting to the point that you really can't afford not to do it."

Meanwhile, Prince William County in Virginia is scrapping its tape backup system in favor of backing up data to disk over a secure network to a remote site owned by the county. CIO Masood Noorbakhsh says the goals are to decrease the time it takes to run backups and restores and to increase security. Because it's a private network, it won't be necessary to encrypt the data in transit, he says.

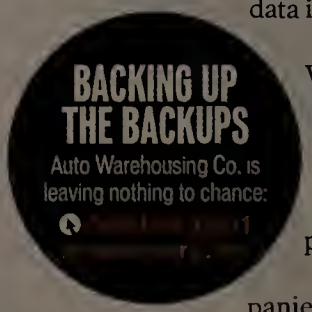
Church Mutual Insurance Co. in Merrill, Wis., produces about 10 backup tapes per day, and its employees move them to the basement of a bank two miles away. Using a company such as Iron Mountain would offer some advantages, says CIO Christopher Graham, but it would cost more.

Church Mutual typifies the many companies that have yet to join the embarrassed ranks of Bank of America, Time Warner, Ameritrade and Citigroup. "Management right now thinks that what we have in place is adequate," Graham says. "Nothing bad has happened yet, so why spend more money?" **55569**

## AN OUNCE OF PREVENTION

**Enterprise Strategy Group offers these tips to avoid security breaches in backup media:**

1. **Perform a risk analysis** of the entire backup process. Could a tape administrator secretly create copies of backup tapes? Are boxes of tapes left out in the open? Do couriers leave their trucks unlocked and unguarded during pickups and deliveries?
2. **Do a cost-benefit analysis** of backup data encryption. It should go deeper than hardware and software costs to include the labor costs of encryption-related tasks.
3. **Inform business managers of risks, threats and potential losses** from security breaches, as well as the costs of various security countermeasure options.
4. **Consider regulatory issues.** Security decisions should be made with existing and future privacy laws in mind.
5. **Take an enterprise view.** Information protection strategies must include all confidential data, not just data stored on back-office systems. Assess the risks to all confidential information, regardless of location, then create a priority list and schedule to address the top vulnerabilities.
6. **Make storage security a function of overall information security policies and architecture.**
7. **Include security requirements in all request for proposals.** Make sure that preferred vendors have security skin in the game.



# BPO: BIG POLITICAL OPPORTUNITY

## Business process outsourcing gives CIOs a chance to lead. By Mary Brandel

IN THE PAST FEW MONTHS, Peter Baker has conducted interviews with a handful of business process outsourcing (BPO) providers and invited a couple of them back to Emcor Group Inc.'s headquarters for further conversation. Emcor, a $4.7 billion construction and facilities maintenance company in Norwalk, Conn., has no solid plans to engage a BPO provider; Baker, director of applications, is simply keeping on top of the BPO trend. "We're six months away from even having any senior executive at Emcor agree to an audience," he says.

This is exactly the kind of activity and analysis IT executives should be engaged in during this BPO-crazed era, experts say. BPO providers are on the hunt for fresh deals, and if IT doesn't take the lead, it could get left out of the conversation. Then it would have to deal with the terms of whatever contract was signed.

"If they were to get to an executive and sell them on something that IT would have to implement, we'd have to do a lot of backtracking and backpedaling," Baker says. And although BPO providers such as Hewlett-Packard Co. say they often start their BPO conversations with the CIO, others say there's a tendency to sidestep IT until later.

"It happens all the time," says Vinnie Merchandani, CEO of Deal Architect Inc., a Tampa, Fla.-based consulting firm that helps clients negotiate technology contracts. BPO providers "like to go straight to the end user because the margins are better and there's less to negotiate."

But it's much more advantageous for IT to be involved at the front end, says Phil Fersht, an analyst at The Yankee Group in Boston. "The CIO has to ensure he's the No. 1 point of contact with the CEO and CFO when the decision is being made, or risk getting caught in the tide," he says.

**"[BPO] vendors deal with people they know are not good at managing vendors, and they take advantage of it.**

**PETER BAKER,** DIRECTOR OF APPLICATIONS, EMCOR GROUP INC.

And the tide is rising. Gartner Inc. projects that spending on BPO will grow worldwide from $112.9 billion in 2003 to $176.1 billion in 2008. Leading the trend are CEOs and chief financial officers targeting noncore business processes to shave expenses, and BPO providers hoping to supplement their IT outsourcing businesses.

While taking the lead in BPO discussions is partly a defensive move for CIOs, they also have a lot to offer from both a technology and a business perspective. In fact, according to Patrick Grady, CEO of Rearden Commerce Inc., a BPO-enabling technology provider in San Mateo, Calif., only the CIO can help companies avoid costly BPO disasters.

For example, Grady says that too many BPO vendors are offering more than they can provide with traditional host-based technology platforms. Over time, he says, as vendors add more customers and have to make modifications to applications, service levels will inevitably fall off. "It looks like a win to the CFO," Grady says, "but if the BPO vendor is hemorrhaging, it's going to come back to bite the customer."

In Grady's view, only the CIO or an IT architect can appreciate how the underlying technology capabilities will affect the vendor's ability to meet its end of the bargain over the long term.

### Front-End Concerns

And there are other technology factors to consider at the outset of the deal. For example, are you outsourcing just the business process side, the application or the entire infrastructure?

"Even if you're leaving the infrastructure and application in-house, you need to consider factors like security, risk management and data integration with other systems and processes," says John Dick, CIO at Regions Financial Corp. in Birmingham, Ala.

Other CIO-level concerns include data access, impact on bandwidth and contractual compliance with the other technologies in the environment, says Marc Schwartz, worldwide vice president of BPO at HP Services.

Technology isn't the only area where CIOs can help on these deals. The IT leader is also often the process expert in the company, knowing better than anyone else how various departments, processes and systems interrelate.

"IT is the only department that touches every other department," Baker says, joking that the IT department's name should be changed to the "business process office."

That's the situation at Siemens Medical Solutions in Malvern, Pa. CIO David Rice says his IT department is heavily focused on what it calls its business process model. "Everyone is clear on what the business process owner does and the relationships between various business processes. Everyone knows the model in their sleep," he says.

If Siemens Medical were to decide to outsource a business process, Rice's group would have particularly keen insight into which processes would be easiest to break off, in terms of interdependencies with other departments.

### Managing the Wolves

A third area where CIOs are crucial is in the negotiation of the BPO contract. "These vendors deal with people they know are not good at managing vendors, and they take advantage of it," says Baker.

BPO deals can be so complex that even getting internal constituents on the same page is a challenge. "One person might think the goal is improving throughput, while another is thinking cost reduction. Or maybe there's a way of structuring a deal to get immediate [expense relief] and then bring it back in-house," Rice says. "You have to ensure everyone has the same understanding."

Because of their experience in IT outsourcing, CIOs are often more familiar with these critical issues than their business counterparts are.

When CIOs help their companies succeed at BPO, the benefits flow both ways. Adding a successful BPO deal to his résumé can't help but enhance a CIO's career prospects. And ignoring the trend can have the opposite effect. "It's here to stay," Fersht says, "and if you don't understand it, you'll suffer in your own career development." **55566**

*Brandel is a* Computerworld *contributing writer in Newton, Mass. Contact her at marybrandel@verizon.net.*

## Be Prepared

Your company isn't considering business process outsourcing yet? That doesn't mean it won't happen – and it could be sooner than you think. Here are some ways to prepare:

- **Understand what BPO means** and the dynamics of why corporations are doing it.
- **Engage sourcing providers** to start an initial dialogue about what they have to offer.
- **Research BPO benchmarks** and test cases.
- **Know your company's business processes** and maintain a comprehensive and up-to-date view of them.
- **Talk with colleagues** about their BPO experiences and insights.

*– Mary Brandel*

# PAY MORE ATTENTION TO SERVERS BEFORE YOU BUY THEM.

# SO YOU CAN PAY LESS ATTENTION

## IBM eServer™ xSeries®

### Affordable, reliable, easy to manage: eServer xSeries with Intel® Xeon™ Processors

IBM eServer **xSeries 226 Express**

An entry-level server that offers the reliability and performance needed for business-critical computing. Easy set up, deployment, and access to all major system components.

**System features**

- Up to two Intel Xeon Processors 3GHz/2MB
- Two-way tower with rack capability
- Up to 7 hot-swappable SCSI hard disk drives
- Two 73GB HS SCSI HDD standard
- Limited warranty: up to 3 years on-site[3]

From **$1,639***[4]

(Other configurations as low as **$1,229**[4])

**IBM Financing Advantage**
Only **$45** per month[5]

IBM eServer **xSeries 346 Express**

Help maximize performance and improve availability in a rack dense environment with Xtended Design Architecture.™ Includes features like Calibrated Vectored Cooling, an IBM innovation that helps to cool your system and improve uptime.

**System features**

- Up to two Intel Xeon Processors 3GHz/2MB
- Two-way 2U rack server
- Up to 2GB DDR2 memory using 8 DIMM slots with enhanced memory
- Limited warranty: up to 3 years on-site[3]

From **$3,999***[4]

(Other configurations as low as **$2,219**[4])

**IBM Financing Advantage**
Only **$109** per month[5]

IBM eServer **xSeries 366 Express**

With the power of 3rd generation Enterprise X-Architecture,™ it sets a new standard for 4-socket, 64-bit servers. Delivers increased performance, systems manageability, and simultaneous support for 32 and 64-bit apps.

**System features**

- Up to four 64-bit Intel Xeon Processors MP 3.66GHz
- 64GB DDR memory
- 4GB memory expandable to 64GB
- Six 64-bit Active PCI-X 2.0
- IBM Director
- Calibrated Vectored Cooling
- Limited warranty: up to 3 years on-site[3]

From **$13,779***[4]

(Other configurations as low as **$6,999**[4])

**IBM Financing Advantage**
Only **$379** per month[5]

## IBM eServer BladeCenter™

### Flexible and easy to use

IBM eServer **BladeCenter HS20 Express**

Designed to support the Intel Xeon Processor and packed with high-availability features, the eServer BladeCenter HS20 with an industry-leading modular design delivers density without sacrificing processor performance.

**System features**

- Up to two Intel Xeon Processors 3.20GHz/2MB
- Up to 14 blades per chassis
- Supports both 32 and 64-bit applications
- IBM Director
- Limited warranty: up to 3 years on-site[3]

From **$2,979***[4]

(Other configurations as low as **$1,839**[4])

**IBM Financing Advantage**
Only **$82** per month[5]

## IBM TotalStorage®

### Simplify storage management to help improve productivity

IBM TotalStorage **DS300 Express**

Entry-level, cost-effective SCSI storage systems designed to deliver advanced functionality at a breakthrough price. Provides an exceptional solution for work group storage applications, such as e-mail, file, print, database and Intel Xeon Processor-based servers.

**System features**

- 3U rack-mount entry level
- Support for up to 14 Ultra320 SCSI disk drives
- Starts at 584GB / Scales to 4.2TB
- Limited warranty: 1 year on-site[3]

From **$5,355***

(Other configurations as low as **$2,995**)

**IBM Financing Advantage**
Only **$147** per month[5]

*All prices are IBM's estimated retail selling prices that were correct as of June 3, 2005. Prices may vary according to configuration. Resellers set their own prices, so reseller prices to end users may vary. Products are subject to availability. This document was developed for offerings in the United States. IBM may not offer the products, features, or services discussed in this document in other countries. 1. IBM Director is not available on TotalStorage products. 2. IBM Director must be installed. Products included in IBM Express Servers and Storage may also be purchased separately. 3. Telephone support may be subject to additional charges. For on-site labor, IBM will attempt to diagnose and resolve the problem remotely before sending a technician. 4. Prices subject to change without notice. Price may not include a hard drive, operating system or other features. Contact your IBM representative or IBM Business Partner for the most current pricing in your geography. 5. IBM Global Financing terms and conditions and other restrictions

# TO THEM AFTER.

**With IBM® Express Servers and Storage™ offerings designed for mid-sized businesses, help is here.**

You've already got a zillion things that require your attention – you shouldn't have to worry about your systems. That's why IBM Express products offer reliability features, which help them do their job so you can focus on yours.

Take IBM Director, which comes standard.[1] It can proactively notify you of a potential problem – up to 48 hours in advance. Or our Calibrated Vectored Cooling feature available on select xSeries systems. It can cool your system more efficiently. This means more features can be packed into a smaller server – for more functionality and greater flexibility.

It's just an example of our self-managing features that help you take back control of your IT. Which can help lower your maintenance costs, too. Because with IBM Express Servers and Storage, innovation comes standard. It's not optional. Plain and simple, it's built in.[2]

There's also one more great feature – your IBM Business Partner. Which means you can have a one-to-one chat with someone who understands your industry and your business – and who's located in your neck of the woods. And for mid-sized businesses, that's really big help in a really big way.

**☎ THE WORLD'S HELP DESK**

Learn more about our full range of IBM Express products and financing options. And find the IBM Business Partner near you – who can help you choose the right system to meet your requirements.

ibm.com/eserver/helpishere1

1-800-IBM-7777

mention 104CE01A

SIZE OF BUSINESS

HELP FOR ANY SIZE PROBLEM

IBM

IBM TotalStorage **DS400 Express**

With advanced functionality, the DS400 provides an exceptional solution for work group storage applications. It supports Intel Xeon Processor-based servers and offers Fibre Channel drives designed for high performance, and hot-swap Ultra320 SCSI drives designed for high reliability.

**System features**

2GB Fibre Channel storage systems area network (SAN)

3U rack-mount entry level

Starts at 584GB / Scales to 12TB

Limited warranty: 1 year on-site[3]

From **$8,495***
(Other configurations as low as **$4,995**)

**IBM Financing Advantage**
Only **$234** per month

may apply. Monthly payment provided is for planning purposes only and may vary based on customer credit and other factors. Rates and offerings are subject to changes, extension or withdrawal without notice. IBM eServer, BladeCenter, xSeries, TotalStorage, IBM Express Servers and Storage, Enterprise X-Architecture and Xtended Design Architecture are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Intel, Intel Inside, the Intel Inside logo, and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Other company, product and service names may be trademarks or service marks of others. © 2005 IBM Corporation. All rights reserved

# ThinkTank

## BRAIN FOOD FOR IT EXECUTIVES

### RFID Is Showing Up on Food, Tools And Casino Chips

**A RECENT REPORT** from Forrester Research Inc. says that eventually, the radio frequency identification market as we know it today will disappear. Why? RFID will move beyond the supply chain and simply become a sensor technology embedded in a wider variety of business processes, such as "predictive maintenance" and real-world market research.

For example, Northfield, Ill.-based Kraft Foods Inc. uses RFID-tagged containers to track the location and freshness of the ingredients it uses. A grocery retailer can use RFID-tagged shopping carts to monitor and analyze shopping patterns in the aisles. Several firms are using RFID chips to keep track of expensive tools that tend to "walk off" construction job sites. Gaming Partners International Corp. in Las Vegas has already sold 3 million RFID-embedded gambling chips to casinos to fight counterfeiting.

GETTY IMAGES

Marsha Thomson, IT minister of the state of Victoria in Australia, returned from a trade fair in Japan predicting a world where sensors are everywhere. She says she saw RFID chips "the size of glitter" that could be sprinkled on enemy forces during warfare and used to track troop movements.

She also saw RFID used in fruit shipments. The chips contained information such as the fruit's country and farm of origin, batch number and use-by date. They also identified any chemicals it may have been treated with if it wasn't organically grown. **55600**

*– Mitch Betts and Michael Crawford (Computerworld Australia)*

### Outsourcing Concerns

IT managers ranked these risks as their biggest worries about outsourcing:

1. Employee backlash
2. Employee severance costs
3. Customer reaction
4. Negative publicity
5. Legislation
6. Political pressure
7. Market reaction
8. Union pressure
9. Competitor criticism

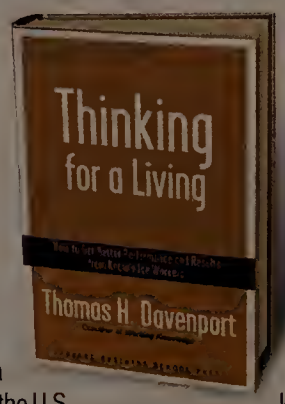
**BASE:** 210 IT decision-makers at large U.S. corporations

DIAMONDCLUSTER INTERNATIONAL INC., CHICAGO, JUNE 2005

### Best Bits

**The most useful parts of recent business and IT management books**

**THE BOOK: Thinking for a Living: How to Get Better Performance and Results From Knowledge Workers,** by Thomas H. Davenport *(Harvard Business School Press, 2005).*




They like to be left alone, you can't tell them what to do, and they don't particularly want to be managed. Their work is often unstructured – different every day. They tend to be mobile and work in collaborative networks. They're called knowledge workers, because their primary job is to create, distribute or apply knowledge. It's a class of workers – at least 25% of the U.S. workforce – that includes doctors, lawyers, strategists, managers, programmers and marketers.

So far, corporate management has pretty much kept its paws off these think-for-a-living employees because Industrial Age productivity-enhancing techniques don't work. But Babson College IT and management professor Tom Davenport argues that the laissez-faire approach isn't good enough anymore. He joins management guru Peter Drucker in saying that the challenge of our times is to find ways to improve the performance and results of these knowledge workers, because they're the key to organizational growth and economic success. Knowledge workers are the ones who come up with new business strategies and products. They're also the most expensive employees in the company.

Davenport acknowledges that managing knowledge workers is like herding cats, but he asks us to imagine how much better our organizations would be if we could help them be more effective. And that's where IT comes in. This book has a whole chapter on how IT can foster collaboration, share knowledge, embed knowledge in work processes and provide role-specific portals to reduce the amount of time spent searching for information.

*– Mitch Betts*

**WANT MORE BRIGHT IDEAS?** *Visit our blog: www.computerworld.com/blogs/betts*

### The IT Economy

**■ If you want to boost [illegible] productivity,** is it better to [illegible] creas[illegible] IT [illegible]? [illegible] s both, a[illegible] McKinsey & Co. co[illegible] J. Dorgan and Jo[illegible] London. The [illegible] facturing compa[illegible] 2002 fo[illegible] e impact on prod[illegible] they were accompa[illegible] manag[illegible] nt practices [illegible] ins[illegible] uting [illegible] niq[illegible] es and [illegible] people.

In fact, of the [illegible] better m[illegible] a bigger [illegible] in pro[illegible] spending did, the a[illegible] [illegible] co[illegible] crossed compute[illegible] 20[illegible]

### Buying Intentions

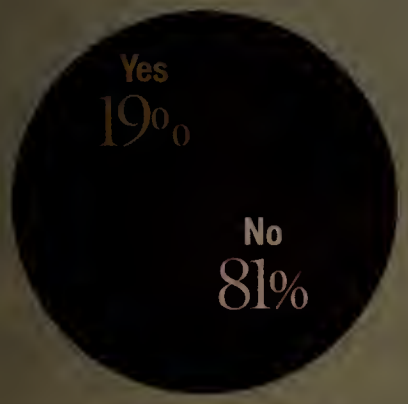
[illegible] of b[illegible] s[illegible]

**Index of Business IT Demand, 2005**

# Career Watch

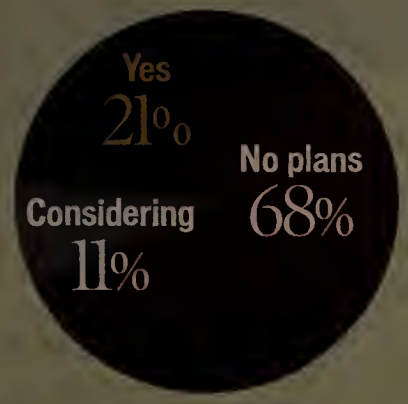
## Offshoring: Not So Fast

**Do you currently send work offshore?**




**The public perception is that offshoring is rampant, but a 2005 study by offshore outsourcing consultancy Ventoro found that the vast majority of companies have no offshore strategy. The perception may be fed by the fact that of the Fortune 1,000 companies participating in the study, 95% have an offshore strategy.**

**In the next year, will you have an offshore strategy?**




**However, only 32% of the executives polled said their companies will be either planning or considering an offshore strategy within the next year.**

Base for both charts: 5,231 executives across North America and Europe who would generally be considered buyers of offshore outsourcing services.

## Gilles Bouchard

**TITLE: CIO, executive vice president of global operations**

**COMPANY: Hewlett-Packard Co.**

Bouchard is this month's guest **Premier 100 IT Leader,** answering readers' questions about business training and landing a first IT job. If you have a question you'd like to pose to one of our Premier 100 IT Leaders, send it to **askaleader@computerworld.com** and watch for this column each month.

**I have a background in business with a degree in business IT. I'm thinking of getting a master's degree, but I'm not sure if I should get an MBA or a master's in MIS. I want to be a business-technology leader. Which will be the better investment for me?** The major constant for years to come will be change. You need to be adaptive, and your education and knowledge can play a key role. While highly technical skills will continue to be required in companies that specialize in creating technology, the vast majority of enterprises will need people who are able to understand the business and configure the technology to serve the business need. [Read about dual IT-business degrees in "2 for 1," QuickLink 55183.]

**What are the steps I need to follow in order to become a successful business analyst? I have just been assigned this position and have a bachelor's degree in mass communication.** There are many different ways to be a successful business analyst. Here's a list of what I believe to be the most fundamental:

- Have a genuine interest in the business objective; the issue to resolve is never the objective.
- Always remember that there are three dimensions: people, process and technology.
- Think holistically, end to end. Optimizing the overall result is what really matters.
- Think out of the box. Always get external opinions for multiple fresh perspectives.
- Measure and quantify results.
- Communicate, communicate, communicate.

**I'm working on my bachelor's degree in IT, with a concentration in technology management. I also have an associate's degree in information systems. Right now, I'm looking for an internship/entry-level position, but I have no experience and have worked mainly in part-time cashier jobs. I have a 3.92 GPA. What can I do to get a job?** Start networking with friends and family. They can help you learn about job openings and arrange for informational interviews within their companies. Informational interviews are invaluable for making contacts and understanding the kinds of jobs that are available. Another avenue would be to go to high-tech company Web sites and search for internships and co-op programs. Finally, join professional organizations to expand your network. Many have job listings that you could look into. Once you get an interview, be the most prepared candidate. Let the company know what you can do for it instead of what you did for someone else. Show that you understand its business and have thought about what you can contribute. Good luck to you! **55546**

*Page compiled by Jamie Eckle.*

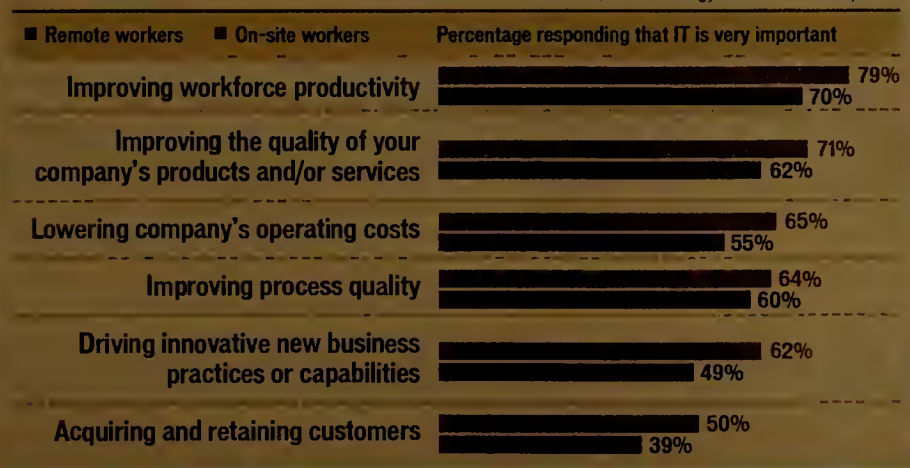
## Absence MAKES THE HEART GROW FONDER

**Your remote workers love you.**

A [illegible] Research Inc. study on the attitudes of [illegible] workers found that they [illegible] warmth toward the IT department than on-site workers do. [illegible] about why the [illegible] IT? How? Have you seen [illegible] in the column?

**How vital is the IT organization to the success of the following efforts at your company?**

Base: 2,138 technology users at U.S. companies




## Job Surfing

**Yahoo Inc. has added new search technology that crawls the Internet to help users of its HotJobs employment site find openings on sites across the Web. The technology not only scours Web sites for desired information, but it has learning capabilities, too, a Yahoo spokeswoman said. Users of HotJobs can still find advertised job listings on the employment site, which Yahoo acquired in 2002.**

# HOW MANY PEOPLE DOES TO SUPPORT A SINGLE (THAT'S TOO MANY.)

With IBM® Express Servers and Storage™ designed for mid-sized businesses, help is here.

Servers should support a business, not the other way around. That's why IBM Express Servers have self-managing features: so that our servers can virtually run themselves. What's more, with IBM Express Servers and Storage, innovation comes standard. Take the OpenPower™ 710 Express, for instance. It's specially tuned for Linux® and offers the reliability of POWER5™ technology at a surprisingly low price.[1]

And while you can't be in two places at the same time, you might want to look into the innovative server feature that can. For example, the remarkable Advanced POWER™ Virtualization option – it lets one OpenPower 710 Express act as many virtual ones.

On top of that there's IBM TotalStorage® products, which offer a wide range of disk, tape, and storage software solutions – so you can choose the right options to meet the growing needs of your company.

There's also one more great feature – your IBM Business Partner. Which means you can talk to someone who understands your industry and your business – and who's located in your neck of the woods. And for mid-sized businesses, that's really big help in a really big way.

IBM eServer™ OpenPower™

Tuned for Linux

## IBM eServer **OpenPower 710 Express**

**System features**

Increase computing power, availability and scalability in a rack dense environment

Ideal for consolidation of infrastructure workloads (Web serving, file, print, security applications)

Robust 64-bit mainframe-inspired POWER5 systems

2-way 19" rack server

Up to 32GB of memory

Optional Advanced POWER Virtualization[1]

DB2® Express Discover CD

Limited warranty: up to 3 years on-site[2]

From **$4,477***

**IBM Financing Advantage**
Only **$124** per month[3]

*All prices stated are IBM's estimated retail selling prices that were correct as of May 6, 2005. Prices may vary according to configuration. Resellers set their own prices, so reseller prices to end users may vary. Offers are for business customers only and are subject to availability. This document was developed for offerings in the United States. IBM may not offer the products, features, or services discussed in this document in other countries. [1]The Linux operating system for the OpenPower 710 Express must be purchased separately. Price does not include virtualization option. [2]Telephone support may be subject to additional charges. For on-site labor, IBM will attempt to diagnose and resolve the problem remotely before sending a technician. [3]IBM Global Financing terms and conditions, and other restrictions may apply. Monthly payments provided are for planning purposes only and may vary based on customer credit and other factors. Rates and offerings are subject to change, extension or withdrawal without notice. [4]Customer Replaceable Unit (CRU) service is available in most

# IT TAKE SYSTEM?

IBM

IBM TotalStorage®

## Simplify storage management to improve productivity

### IBM TotalStorage **3580 Express**

The 3580 Express helps address your growing storage requirements and the problem of shrinking backup windows. It supports cost-effective backup, save and restore, and data archiving.

**System features**

- Built on Ultrium® 3 technology
- Read/write compatible with cartridges written by Ultrium 2 drives
- Read compatible with Ultrium 1 cartridges
- Up to 400GB cartridge capacity. Up to 800GB with 2 to 1 compression
- Limited warranty: 3 years[4]

From **$5,850***

**IBM Financing Advantage**
Only **$167** per month[3]

### IBM TotalStorage **DS4300 Express**[5]

With a scalable design, the DS4300 Express is designed to provide a reliable and affordable storage option to help simplify your data management needs.

**System features**

- 2GB Fibre Channel SAN-ready
- 3U rack mount entry level
- Scales to 33.6TB
- Supports up to 112 Fibre Channel disk drives – with optional EXP710 expansion units[6]
- Heterogeneous OS support
- Limited warranty: 3 years on-site[2]

From **$8,655***

**IBM Financing Advantage**
Only **$238** per month[3]

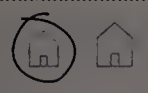
**☎ THE WORLD'S HELP DESK**

Learn more about our full range of IBM Express products. And find the IBM Business Partner near you - who is IBM trained to know which systems meet your specific requirements.

ibm.com/eserver/helpishere2

**1-800-IBM-7777**

mention 104CE02A

SIZE OF BUSINESS 

HELP FOR ANY SIZE PROBLEM

countries. [5]General product availability of IBM TotalStorage DS4300 Express is expected to be 6/17/05. [6]EXP710 expansion unit is not included in the price. MB, GB and TB equal 1,000,000, 1,000,000,000 and 1,000,000,000,000 bytes, respectively, where referring to storage capacity. Actual storage capacity will vary based upon many factors and may be less than stated. Some numbers for storage capacity are given in native mode followed by capacity using data compression technology. IBM, eServer, POWER5, OpenPower, IBM Express Servers and Storage, DB2, POWER and IBM TotalStorage are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Linux is a registered trademark of Linus Torvalds in the United States and other countries. Linear Tape-Open, LTO, and Ultrium are trademarks of Certance, HP and IBM in the U.S. and other countries. Other company, product, and service names may be trademarks or service marks of others. ©2005 IBM Corporation. All rights reserved

## QUICK HITS

### OPEN-SOURCE: PLUSES, MINUSES

**What are the biggest benefits of open-source software?**

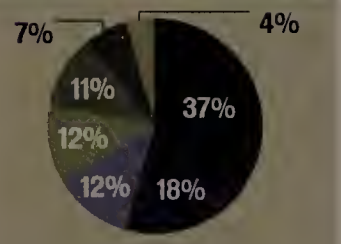
| | |
|---|---|
| Low acquisition costs | 85% |
| Low total cost of ownership | 68% |
| Hardware choice | 55% |
| Better security | 38% |
| Software choice | 37% |
| Familiar to developers | 25% |
| Higher quality | 18% |
| Other | 10% |

**What are your concerns about open-source?**

| | |
|---|---|
| Lack of support | 60% |
| Product immaturity | 42% |
| Lack of applications | 36% |
| Lack of skills | 36% |
| Unexpected license costs | 33% |
| Fear that the open-source community will splinter | 26% |
| Security | 20% |
| Fear of lawsuits | 16% |
| Other | 5% |
| None | 5% |

Base: 95 IT decision-makers using or planning to use open-source in the next 12 months. Multiple responses accepted.

**What has been your biggest disappointment with open-source?**




Base: 95 IT decision-makers using or planning to use open-source in the next 12 months. Percentage doesn't equal 100 because of rounding.

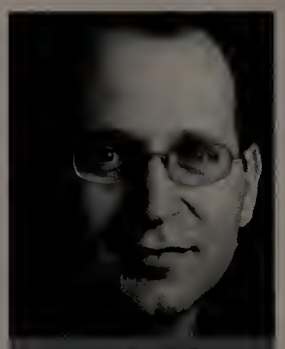
SOURCE: FORRESTER RESEARCH INC. JUNE 2005

PAUL GLEN

# Killing Zombies

DOES YOUR DEPARTMENT host a congregation of the undead? Every so often, I find zombies lurking in the conference rooms and kitchens of IT departments, harassing managers and staff. The undead are remarkably resilient. They are the bane of the managers they haunt, but they are often of the managers' own making.

Let me explain. One of my clients, the CEO of a midsize software company, recently asked me what she should do with a bizarre set of recommendations that she had received from a committee of employees. The group had presented her with a hodgepodge of proposals (read: demands) ranging from suggestions about product strategy to requests for enhancements to the employee benefits packages and ideas about completely reorganizing the company.



PAUL GLEN is an IT management consultant in Los Angeles and the author of the award-winning book *Leading Geeks: How to Manage and Lead the People Who Deliver Technology* (Jossey-Bass/Pfeiffer, 2003; www.leadinggeeks.com)

As she talked about the document, I could see that she was more than just mildly frustrated by the incoherence of the ideas. She talked on and on about how much it would cost to implement the suggestions, how little they would benefit the company and how they contradicted one another. She seemed to be taking the list as a personal assault.

"Do you know what prompted them to make these proposals?" I asked.

"No. It's not what they are there for," she replied.

I finally asked her to tell me about the committee that had submitted the recommendations.

The group had been assembled to implement a merger of two support operations. Over the period of a year, they had studied, made recommendations about and overseen the combination of the two groups. Apparently, they had done an excellent job of fulfilling their original mandate.

"So how did they get from that mandate to those recommendations?" I asked.

"I don't know," she replied.

"So why do they still exist?" I asked her.

"I don't know." She responded through gritted teeth.

There it was. She had an undead committee, an assembled group of energetic, talented and well-meaning people roaming the building looking for a purpose. Once they had gone to all the trouble of learning to work together as a cross-functional team, they apparently decided to move on and tackle bigger and better things.

This kind of problem isn't restricted to small groups.

In the U.S. government, there's a classic example. The Rural Electrification Administration (REA) was formed in 1935 with the purpose of bringing electricity to the populations of remote agricultural areas. The program was a tremendous success, and within 15 years, more than 90% of farms had power, up from only 10% when the program began.

But did the REA gracefully close its doors after its core mission was accomplished in the 1950s? Of course not. In the 1980s, it still existed, having found new things to do. Unable to kill it, the government eventually merged it into another agency.

The undead live on.

Do you have one of those undead groups in your department?

They are relatively easy to spot. Here's how: For every assemblage of people in your organization, ask a few key questions:

- What are their three most important goals?
- Has this group outlived its original mission?
- If it has outlived its original mission, has management assigned it a new mission?

If any group lacks clearly articulated goals supported by senior management, you may have a pack of zombies on your hands.

You can do one of two things:

- Throw a party. Congratulate the group on its initial success and then disband it.
- Give the group a new purpose. Find an appropriate and useful new job for the group and monitor the scope of its work, just as you would any project.

If neither of those solutions works, move on to more drastic action:

- Ensure that the key players in the group have so much other high-priority work to do that they simply can't devote time to the haunting.
- Fire some people — but only as a last resort.

So back to my client. "What did you do to disband the group after its work was done?" I asked her.

"Nothing," she said, with a look of realization. "I assumed that they would just stop meeting." She suddenly understood that she had a zombie problem and that it was one of her own making. **55487**

### WANT OUR OPINION?

For more columns and links to our archives, go to **www.computerworld.com/opinions**

# Got Questions About Enterprise Analytics?

## Computerworld's IT Management Summit Has the Answers

Looking to better understand enterprise analytics? Apply to attend Computerworld's complimentary* half-day IT Management Summit: Beyond Business Intelligence.

Enterprise analytics enable companies to make timely fact-based decisions using critical information from across the entire organization. By fully leveraging data, technology, skills and processes, successful users of enterprise analytics go beyond simply understanding the past, to predicting outcomes that improve overall corporate performance.

This summit will feature the latest insights of business intelligence industry experts and will give you first-hand information on the innovations and experiences of companies successfully deploying enterprise analytics.

* Complimentary registration is restricted to qualified IT managers only.

### Apply for registration today

Contact Chris Leger at 888-299-0155
or visit: **www.itmanagementsummit.com**

### This program will also take place in:

San Francisco, California · September 20, 2005

## Beyond Business Intelligence: Using Enterprise Analytics to Drive Fact-Based Decisions

### New York, New York · August 9, 2005

**New York Marriott Financial Center · 85 West Street · New York City**

| | |
|---|---|
| 8:00am to 8:30am | Registration and Networking Breakfast |
| 8:30am to 8:40am | **Introduction and Overview**<br>Julia King, Executive Editor, Events, and National Correspondent, Computerworld |
| 8:40am to 9:10am | **Trends in Enterprise Analytics: An Industry Analyst's Overview**<br>Keith Gile, Principal Analyst, Forrester Research |
| 9:10am to 9:40am | **Case Study: The Nature Conservancy**<br>Connor Baker, Director of Business Information, The Nature Conservancy |
| 9:40am to 10:30am | **Transforming Enterprise Data Into Actionable Business Intelligence**<br>Rob Stephens, Director of Technology Strategy, SAS<br>Michael Tillema, Business Intelligence Strategist, Intel |
| 10:30am to 10:45am | Refreshment and Networking Break |
| 10:45am to 11:15am | **Case Study: APEX Management Group**<br>Jody Porrazzo, Ph.D., Director of Econometric Risk Strategy, APEX Management Group |
| 11:15am to Noon | **Panel Discussion – From Gut Feel to Fact-Based Decisions: Real-Life Business, Political and Technology Lessons Learned on the Front Lines of Enterprise Analytics**<br>Moderator: Julia King, Executive Editor, Events, and National Correspondent, Computerworld<br>Panelists:<br>· Connor Baker, Director of Business Information, The Nature Conservancy<br>· Jody Porrazzo, Ph.D., Director of Econometric Risk Strategy, APEX Management Group<br>· Keith Gile, Principal Analyst, Forrester Research<br>· Rob Stephens, Director of Technology Strategy, SAS<br>· Michael Tillema, Business Intelligence Strategist, Intel |
| Noon | Luncheon (optional) |

**Selected speakers include:**

*Connor Baker*
*Director of Business Information, The Nature Conservancy*

*Jody Porrazzo, Ph.D.*
*Director of Econometric Risk Strategy, APEX Management Group*

*Keith Gile*
*Principal Analyst, Forrester Research*

*Rob Stephens*
*Director of Technology Strategy, SAS*

*Michael Tillema*
*Business Intelligence Strategist, Intel*

*Julia King*
*Executive Editor, Events, and National Correspondent Computerworld*

*Exclusively sponsored by*

sas
*The Power to Know.*

intel

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. ® indicates USA registration. Other brand and product names are trademarks of their respective companies. Intel and the Intel logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

COMPUTERWORLD
IT MANAGEMENT SUMMIT
SERIES

IT Professionals
and Managers Needed

MindTree Consulting, an established and expanding IT consulting company with headquarters in Somerset, NJ is searching for qualified IT Professionals (i.e., Software Engineers, Programmer/Analysts, Systems Analysts); Information Systems and Project Managers; and business development managers in its growing team.

Technical positions require a bachelor's degree in computer science, engineering or a related field and relevant industry experience. We particularly seek applicants with experience in areas such as SAP, Oracle, Sybase, MS SQL Server, Java, J2EE, XML, HTML, DB2, COBOL, Linux, .Net Technologies and WebServices.

For our Information Systems and Project Manager positions we prefer a MS degree in related fields such as computer science or engineering and relevant industry experience. We will consider applicants with a relevant bachelor's degree and significant industry experience for these positions.

Our business development managers' responsibilities include developing and managing all business development initiatives for a region in the United States. Qualified applicants will have a technical and/or business/marketing degree (master's preferred) and relevant industry experience.

Positions may require relocation to various client sites throughout the United States. Qualified applicants submit resumes to HR Department, The Tower, 270 Davidson Avenue, Suite 305, Somerset, NJ 08873.

---

Web Methods Developer. Chicago, IL. Design, develop, code, test, debug, and document programming applications using WebMethods flow language, integration server, Java programming language and J2EE architecture to satisfy requirements of one or more user areas. Provide 24-hour daily production and technical support to assigned systems and comprehensive consultation to business units, information technology (IT) and staff. Work closely with client management to identify and specify complex business requirements and processes. Research and evaluate IT solutions and make applicable recommendations. Conduct technical presentations and strategy papers on Java and WebMethods.

Qualifications include a minimum of a Bachelor's degree in Computer Science or Computer Engineering, or the foreign equivalent, and at least four years of relevant work experience. Must have gained experience using WebMethods flow language, integration server, Java programming language and J2EE architecture through academic coursework or previous employment.

To apply for this position, visit our website at: http://careers.jpmorganchase.com/ click "Employment Opportunities" then click "Search and Apply for Jobs" then click "Job Search" and then in the "Keyword and Job Number Search" field enter "050032678". JPMorgan Chase is an Equal Opportunity and Affirmative Action Employer, M/F/D/V.

---

N.J. based Computer Horizons Corp. needs Systems Analyst to analyze, design, implement business issues and technical architecture using Datasweep development tools. Will design and develop MES solutions using languages and tools to include Java, SQL server2000, P-nut/ Java Script. M-F, Masters Degree in Computer Science or equivalent based on combination of formal education, professional courses and experience plus 3 years experience. May be required to re-locate to client site within U.S., expenses at Company option. Send resume c/o Dean, P.O. Box 900, Mountain Lakes, N.J 07046.

---

DBA: Coordinating System Analysis, Database Design, Coding, Testing and Implementation of Oracle Application on Novell and Windows NT/2000. Perform configuration management, writing functional specification, physical and logical data modeling. Design OLAP cubes and reports using Business Objects, Cognos and SQL Server. Handle production rollout with minimum downtime in an environment consisting of complex set-up like Replication and Linked Servers. Design data warehouses, data marts using ETL tools such as Informatica, SQL Loader and SQL Server DTS packages. Develop API'S to interface for implementing frequently changing Business logic. Undertake regular database backup and recovery process. Masters or Equivalent in Computer Science, MIS, CIS, Engineering (any field), Technology, or Mathematics. Minimum two years of experience in the computer related field in the above job duties. Salary will commensurate with experience.

Please email your resume to: hr@sisincorp.com or mail to Software Integration Services, 12130 Cedar Trace Drive S, Jacksonville, FL, 32246.

---

APPLICATIONS DEVELOPER

SAS - the market leader in providing a new generation of business intelligence software is seeking an Applications Developer 4 in the Wakefield, MA area. This individual designs and develops large scale enterprise applications using C++, MFC, ATL, COM/DCO and J2EE technology; performs database design; and develops procedures on relational databases. Developer also responsible for developing unit and system testing these applications on multiple platforms.

Candidates must have a Master's degree in Comp Science, Engineering or related field; 5 years experience as Senior Software Engineer; and demonstrated knowledge of C/C++, Visual C++, MFC, ATL, COM/ DCOM, WIN32API, J2EE technology, Solaris, Windows and AIX platforms, relational databases, WebLogic, WebSphere and Oracle Application Servers.

Please email your resume to careers@sas.com, indicating job #05001735 in the subject line. EOE/AA Employer. Drug free work environment - screening required.

---

Black Diamond Capital Mgmt (Greenwich, CT) seeks Financial Analyst, with B.S. in Computer Information Systems or Finance + 2 yrs. exper. Must have developed structured investment software involving: 1) CDO/CLO, 2) compliance operating guidelines; 3) MS Access, Visual Basic and Excel. Send resume to: jhigham@bdcm.com with financial analyst #rt05 in subject heading. no calls. EOE.

---

Weblogic Administrators: Monitor, troubleshoot and administer weblogic servers using J2EE and weblogic. Must have bachelor's or foreign degree equivalent based on education and/or diplomas & certificates or experience. Req. 1 yr exp in job offered. Must be willing to relocate to various unanticipated worksites throughout the U.S. as contracts and client demands dictate. Resume to: Manager, Vesca Solutions, LLC, 730 Mountclaire Dr., Cumming, GA 30041.

---

**Sr Market Research Analyst**, located in Rockville, MD/various client sites in USA. Will oversee, perform and guide research and analysis to quantify data related to wireless telecom customers/ competitors; evaluate technical and financial capabilities, analyze the marketing strengths and strategies of competition; operate independently and directly develop and liaison with the customer support facilities in US and Overseas; Oversee marketing contracts, market analysis projects, and lead project teams in updating large sets of data, config/tabulation working independently, manage outsourced business processes and advise Senior Management. **Min requirement**; Master's Degree or a Bachelor's Degree + 5 yrs of progressive prof. experience in Business Admin, Econ, Telecom, Engg or Sciences with 6 yrs relevant experience. Must include any of the following: wireless telecom, international business processes and adv. statistical techniques. Position requires extended travel and/or relocation. Mail resumes to: Attn: HR Director, AV Wireless, Inc., 40 W.Gude Drive, Suite 220, Rockville, MD 20850.

---

S/w Engr., Cincinnati, OH: Analyze science, engg, bus. & data processing problems for applic to electronic data processing systems. Analyze user reqs. procedures and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. Conduct the dev. implementation, maintenance and support of software applics for warehouse control software, sortation systems, print and apply, manifesting and carton tracking, using one or more of C, C++, Java, Java Script, HTML, XML, Perl, Cold Fusion, Visual Basic, PLC, OCX, ActiveX, RSView, RSLink and RSSql in Win NT/2000, Unix, QNX environs. Convert all user/ clients reqs to technical specs and/or review technical specs. Require Master's Degree in Systems Analysis. Permanent US work auth reqd. Send resume to: Pyramid Controls, Inc. 700 W Pete Rose Way, Suite 330, Cincinnati, OH 45203, Attn.: Steve Kley. Refer to Code: WI..

---

N.J. headquartered Computer Horizons Corp. has need for Management Consultant/IT, in Chicago area. Will analyze business and technical issues, develop standards and processes to support business requirements and objectives, use MS Project/Project Server, make recommendations to senior mgt. on tactical and strategic solutions, present alternatives and industry best practices and standards to enable attainment of Capability Maturity Model (CMM). M-F, 40 hrs. Masters Degree in Management, plus 3 years experience. Relocation expenses at company option. Send resume c/o Dean, P.O. Box 900, Mountain Lakes, N.J. 07046.

---

Computer Systems Administrator - Analyze user reqmts, procedures & problems to automate or improve existing comp n/work. Perform PC configuration, manage server & co. website. Administer permissions & security protocols of the local area n/work. Train & provide user support to all employees. 1 yr exp reqd. B.S. in Comp Sci. Resume to Sev Staffing, 2513 Massey Tompkins Rd., Baytown, TX 77521.

---

Software Engineer. Plan, design, develop & implement customizations to Oracle Applications Suite in jewelry manufacturing & distribution operation performing gap analysis, custom development, configuration, implementation, migration & development of interface for many third party systems. BS, Computer Science or Engineering; 5 yrs progressively more responsible information technology exp., including: Oracle Developer 6i, PL/SQL, & Workflow; 1 year exp. Oracle Application Modules, including Order Management, Advanced Pricing, Inventory, Purchasing & WIP. Exp. may be obtained concurrently. Send resume to Stuller, Inc. 302 Rue Louis XVI, Lafayette, LA 70850. Must apply w/in 30 days & refer to job#25097.

---

Software Engineer. Plan, design, develop & implement customizations to Oracle Applications Suite in jewelry manufacturing & distribution operation: will perform gap analysis, custom development, configuration, implementation, migration & development of interface for many third party systems. BS, Computer Science or Engineering; 5 yrs progressively more responsible information technology exp., including: JAVA, JSP, Oracle Developer 6i, PL/SQL, & Workflow; 1 yr. exp. Oracle Application Modules, including Order Management, Advanced Pricing, Inventory, & Purchasing. Experience may be obtained concurrently. Send resume to Stuller, Inc. 302 Rue Louis XVI, Lafayette, LA 70850. Must apply w/in 30 days & refer to job#25096.

---

**Systems Analyst**

Identify business objectives, develop architectural solutions & document software specifications.

Plan, coordinate projects & ensure the quality. REQ: MS in Sys/SW Eng. 2 yrs of exp.

Skills in Rational Tools, Visio, MS Project, RUP, UCM, UML, CMM. 40 hrs/wk.

Resume/Ad to GEMS, Inc., 1851 Alexander Bell Drive, Suite 301-B, Reston, VA 20191.

---

Project Manager, eProcurement - Strategic Sourcing sought by Novartis Pharmaceuticals Corporation for East Hanover, NJ office. Must possess Master's degree in Electronic Commerce or directly related field and 4 years experience in business process analysis and reengineering including experience in SAP R/3, Ariba Buyer and Ariba Supplier Network. Respond to: Arlene O'Rourke, Human Resources Dept., Requisition #P023, One Health Plaza, B105/PL088E, East Hanover, NJ 07936. Novartis is an EOE Employer.

---

Programmer Analyst needed w/Bach or foreign equiv. in Comp. Sci or Engg or Math & 1 yr exp to analyze, dev & implmt automation testing strategies using WinRunner, Java, JSP, HTML, XML & Oracle in Unix & Win platforms. Create & maintain TSL Scripts regression testing of web-portal service. Mail res to: Soft Tech Source - A Div of Ramesh Sarva CPA, P.C., 109-17 72nd Rd, Ste #6R, Forest Hills, NY 11375. Job loc: Forest Hills, NY or any unanticipated locs in US.

---

Computer & IS Manager: Ryan Consulting Group seeks applicants for the position of Business Intelligence and Data Warehousing Manager (Computer and Information Systems Manager) to work in Carmel, IN. Plan, direct and coordinate company's business intelligence architecture. Requirements include masters in computer science, two years experience as a Software Engineer and working knowledge of installation, administration and development with Cognos business intelligence products and experience with RDBMS/Data Warehouse design and development on Microsoft and UNIX platforms. Respond by resume to Venkat Rao, Ryan Consulting Group, 361 Ridge Point Dr., Carmel, IN 46032.

---

Software engineer to design, develop and test computer programs for business applications; analyze software requirements to determine feasibility of design; direct software system testing procedures. Requirements: Bachelor's Degree, educational or functional (3 years experience=1 year of college) equivalent, in Engineering, Computer Science or related field and two years experience as a software engineer or computer programmer. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/ week, involves extensive travel and frequent relocation. Apply: Computer Enterprises, Inc, 1910 Cochran Rd, Manor Oak 2, Suite 230, Pittsburgh, PA 15220, Attn: Stephanie Meixner, Job No 072505.

---

System/Programmer Analysts, Software/Project Engineers or other IT professionals wanted by Imetris, an e-business solutions provider. MS/BS (or equiv) with exp required. Skills in Oracle, SQL, Java, SAP, PeopleSoft, ERP tools plus. Competitive wages. Please contact info@imetris.com. EOE.

System/Programmer analysts, S/W engineers needed by E IT professionals, Inc. to design system applications to meet client's requirements using Java, Oracle, VB, Web Tech, Unix, SQL, SAP, JSP, J2EE, MS Tech, etc. MS or BS with IT exp required. Contact pete@itprofs.net. EOE. No calls.

---

Computer Systems Specialist: K&G Stores seeks applicants for the position of Computer Systems Specialist in Littleton, CO. Install, implement, customize and support management software tools including PDI and MSI software. Requirements include bachelor's degree in computer science, software development experience and working knowledge of XML, C# and COM+. Respond by resume to Preet Puri, K&G Stores, 9777 S. Yosemite St., #120, Littleton, CO 80124.

---

**Programmer Analyst** - Analyze science, engineering, business. Analyze user requirements to automate and improve existing systems and review computer system capabilities, workflow and scheduling limitations. B.S. in computer science or equiv. 2 yrs exp. 40 hrs/wk. Send resume: Spanning Tree Technologies Inc, 433 W Colorado St, Glendale, CA 91204, Attn: R. Amirian.

---

Systems Administrator needed w/Bach or foreign equiv in Comp. Science or Engg or Math & 6 mts exp to install & maintain Intel based server on Win NT & Unix/Linux. Troubleshoot problems on hardware & S/W. Deploy & administer multi vendor hardware, storage & supporting complex networks. Configure & route Cisco, Linksys routers, switches & Proxy Firewalls. Evaluate complex support situations & dev solutions using Perl, Unix Shell Scripts, CGI, XML, HTML, SSL, TCP/IP, DHCP, RPC, SMTP, DNS, NIS, LDAP & NFS. Mail res to: Netsource Communications, Inc., 10050 16th Str. North, Ste 200, Saint Petersburg, FL 33716. Job Loc: Saint Petersburg, FL or in any unanticipated locations in the U.S.A.

---

Computer Professional NJ based IT firm, Jr. Level Positions Programmer Analysts, Software Engineers, Systems Analysts, Database Administrators to Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Sr. Level Position, IT Manager, MIS Manager, ITS Director needed to Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Apply with 2 copies of resume to H.R.D, Vektech Corporation, LLC., 32 Sycamore Drive, Plainsboro, NJ 08536.

---

**Ads Placed Weekly**

Didn't find the IT Career Opportunity you were looking for?

Check back weekly for fresh job listings placed by top companies looking for skilled IT professionals like you!

IT|careers
**800-762-2977**

## COMPUTERWORLD HEADQUARTERS

One Speen Street, P.O. Box 9171
Framingham, MA 01701-9171
Phone: (508) 879-0700
Fax: (508) 875-4394

**PRESIDENT/PUBLISHER/CEO**
Matthew J. Sweeney
(508) 271-7100
Fax: (508) 270-3882

**SALES BUSINESS MANAGER**
Laureen Austermann
(508) 820-8522

**VICE PRESIDENT/ GENERAL MANAGER ONLINE**
Martha Connors
(508) 620-7700

**EXECUTIVE VICE PRESIDENT/ STRATEGIC PROGRAMS**
Ronald L. Milton
(508) 820-8661

**VICE PRESIDENT/ HUMAN RESOURCES**
Piper Sheer
(508) 820-8162

**EXECUTIVE VICE PRESIDENT/COO**
Matthew C. Smith
(508) 820-8102

**VICE PRESIDENT/ EDITOR IN CHIEF**
Don Tennant
(508) 620-7714

**VICE PRESIDENT/CIRCULATION**
Debbie Winders
(508) 820-8193

**CIRCULATION**
Sr. Circulation Specialist/Diana Turco, (508) 820-8167

**PRODUCTION**
Vice President Production/Carolyn Medeiros; Production Manager/Kim Pennett; **Print Display Advertising:** (508) 820-8232, Fax: (508) 879-0446; **DISTRIBUTION:** Director of Distribution and Postal Affairs/Bob Wescott

**MARKETING**
Vice President of Marketing/Matt Duffy, (508) 820-8145

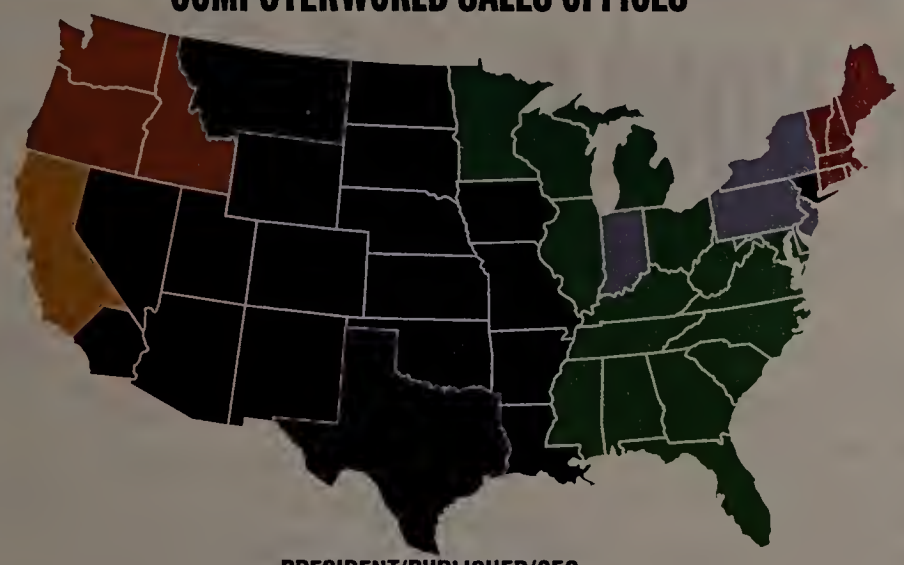
**STRATEGIC PROGRAMS AND EVENTS**
Vice President Strategic Initiatives/Leo Leger; Vice President Business Development/John Amato; Senior Director, Event Sponsorship Sales/Ann Harris; Vice President, Event Marketing and Conference Programs/Derek Hulitzky; Director, Event Management/Michael Meleedy; Sr. Marketing Specialist/Timothy Johnson; Sr. Marketing Specialist/Matthew Wintringham; Sales Programs Specialist/Colin Longval; Executive Programs Specialist/Deborah Lee; Custom Events Specialist/Chris Leger; Conference Manager/Nancy Felsheim; Dperations Specialist/Chris Johnson; Customer Service Specialist/Mike Barbato; Audience Development Coordinator/Shari Ebb, One Speen Street, Box 9171, Framingham, MA 01701-9171, (508) 879-0700, Fax: (508) 626-8524

**ONLINE ADVERTISING**
Vice President of Online Sales/Gregg Pinsky, (508) 271-8013; Director of Online Sales/Sean Weglage, (415) 978-3314, Fax: (415) 543-8010; Online Account Executive/Thanh Tu, (415) 978-3309, Fax: (415) 543-8010; Online Account Services Manager/Bill Rigby, (508) 820-8111, Fax: (508) 270-3882; Online Account Services Specialist/Kathryn Goryl, (508) 620-7760, Fax: (508) 270-3882, Online Sales Assistant/Kathy Snow (508) 270-7112; One Speen Street, Box 9171, Framingham, MA 01701-9171, Fax: (508) 270-3882

**IT CAREERS ADVERTISING SALES OFFICE**
Director of Sales/Laura Wilkinson, (847) 441-8877, Fax: (847) 441-8878; One Speen Street, Framingham, MA 01701

**LIST RENTAL**
**POSTAL:** Rich Green, (508) 370-0832, e-mail: rgreen @idglist.com. **E-Mail:** Christine Cahill, (508) 370-0808, e-mail: ccahill@idglist.com. **MAILING ADDRESS:** IDG List Services, P.D. Box 9151, Framingham, MA 017D1-9151, Fax: (508) 370-002D

## COMPUTERWORLD SALES OFFICES



**PRESIDENT/PUBLISHER/CEO**
Matthew J. Sweeney
(508) 271-7100
Fax: (508) 270-3882

**SALES BUSINESS MANAGER**
Laureen Austermann
(508) 820-8522
Fax: (508) 270-3882

**NORTHWESTERN STATES**
**ACCOUNT DIRECTOR:** Jim Barrett (415) 978-3306; **ACCOUNT EXECUTIVE:** Coretta Wright (415) 978-3304, 501 Second Street, Suite 114, San Francisco, CA 94107, Fax: (415) 543-8010

**BAY AREA**
**ACCOUNT DIRECTORS:** Jim Barrett (415) 978-3306, Sara Culley (415) 978-3307; **ACCOUNT EXECUTIVES:** Emmie Hung (415) 978-3308, Coretta Wright (415) 978-3304, 501 Second Street, Suite 114, San Francisco, CA 94107, Fax: (415) 543-8010

**SOUTHWESTERN STATES**
**ACCOUNT DIRECTOR:** Bill Hanck (949) 442-4006; **ACCOUNT EXECUTIVE:** Jean Dellarobba (949) 442-4053, 19200 Von Karman Avenue, Suite 360, Irvine, CA 92612, Fax: (949) 476-8724

**EASTERN CENTRAL STATES/ INDIANA**
**ACCOUNT DIRECTOR:** Peter Mayer (201) 634-2324; **ACCOUNT EXECUTIVE:** John Radzniak (201) 634-2323, 650 From Road - 2nd Floor, Paramus, NJ 07652, Fax: (201) 634-9289

**CENTRAL STATES**
**ACCOUNT DIRECTOR:** Bill Hanck (949) 442-4006; **ACCOUNT EXECUTIVE:** Jean Dellarobba (949) 442-4053, 19200 Von Karman Avenue, Suite 360, Irvine, CA 92612, Fax: (949) 476-8724

**NEW ENGLAND STATES**
**ACCOUNT MANAGER:** Deborah Crimmings (508) 271-7110, One Speen Street, Framingham, MA 01701, Fax: (508) 270-3882, **SALES ASSOCIATE:** Jessica Bibeau (508) 271-7108, One Speen Street, Framingham, MA 01701, (508) 879-0700, Fax: (508) 270-3882

**METRO NEW YORK**
**ACCOUNT DIRECTOR:** Peter Mayer (201) 634-2324; **ACCOUNT EXECUTIVE:** John Radzniak (201) 634-2323, 650 From Road - 2nd Floor, Paramus, NJ 07652, Fax: (201) 634-9289

**SOUTHEASTERN STATES**
**ACCOUNT DIRECTOR:** Lisa Ladle-Wallace (904) 284-4972, 5242 River Park Villas Dr., St. Augustine, FL 32092, Fax: (800) 779-8622, **SALES ASSOCIATE:** Jessica Bibeau (508) 271-7108, One Speen Street, Framingham, MA 01701, (508) 879-0700, Fax: (508) 270-3882

## ADVERTISER'S INDEX

American Power Conversion .....32/33
www.apcc.com
888-289-APCC

Cognos.....18-19
www.cognos.com

Enterprise Management World .....24/25
www.emwusa.com

Hewlett-Packard Blade Server.....9
www.hp.com

Hewlett-Packard ProLiant .....20*
www.hp.com

IBM Software.....48
www.ibm.com

IBM Systems Group.....34-35, 38-39
www.ibm.com

Insight.....4
www.insight.com

IT Management Summit .....41
www.itmanagementsummit.com

Lenovo .....22-23
thinkpad.com

Microsoft Linux .....15
microsoft.com/getthefacts

Microsoft Windows Server System .....2-3
microsoft.com/wssystem

Mobile & Wireless World .....16/17
www.mwwusa.com

Ricoh.....11, 13
www.ricoh-usa.com/itchannel

Samsung.....47
www.samsung.com

SAS.....27
www.sas.com

*Regional Select Edition

This index is provided as an additional service. The publisher does not assume any liability for errors or omissions.

## INTERNATIONAL DATA GROUP

**CHAIRMAN OF THE BOARD**
Patrick J. McGovern

**CEO**
Pat Kenealy

**COMPUTERWORLD** is a business unit of IDG, the world's leading technology media, research and event company. IDG publishes more than 300 magazines and newspapers and offers online users the largest network of technology-specific sites around the world through IDG.net (www.idg.net), which comprises more than 330 targeted Web sites in 80 countries. IDG is also a leading producer of 168 computer-related events worldwide, and IDG's research company, IDC, provides global market intelligence and advice through 51 offices in 43 countries. Company information is available at www.idg.com.

IDG

## Have a problem with your Computerworld subscription?

We want to solve it to your complete satisfaction, and we want to do it fast.
Please write to: **Computerworld, P.O. Box 3500, Northbrook, IL 60065-3500.**

Your magazine subscription label is a valuable source of information for you and us. You can help us by attaching your magazine label here, or copy your name, address, and coded line as it appears on your label. Send this along with your correspondence.

**ADDRESS CHANGES OR OTHER CHANGES TO YOUR SUBSCRIPTION**
All address changes, title changes, etc. should be accompanied by your address label, if possible, or by a copy of the information that appears on the label, including the coded line.

**YOUR NEW ADDRESS GOES HERE:** **ADDRESS SHOWN:** ❑ Home ❑ Business

NAME
TITLE COMPANY
ADDRESS
CITY STATE ZIP

**OTHER QUESTIONS AND PROBLEMS**
It is better to write us concerning your problem and include the magazine label. Also, address changes are handled more efficiently by mail. However, should you need to reach us quickly, the following toll-free number is available: **(888) 559-7327 Outside U.S. call (847) 559-7322.**
**Internet address: cw@omeda.com**

**COMPUTERWORLD allows advertisers and other companies to use its mailing list for selected offers we feel would be of interest to you. We screen these offers carefully. If you do not want to remain on the promotion list please write to the following address - COMPUTERWORLD, Circulation Department, One Speen Street, Framingham, MA 01701.**

NAME
TITLE COMPANY
ADDRESS
CITY

# How to Contact COMPUTERWORLD

*We invite readers to call or write with their comments and ideas. It is best to submit ideas to one of the department editors and the appropriate beat reporter.*

**Don Tennant,** editor in chief (508) 620-7714

**Mitch Betts,** executive editor (301) 262-8243

**Julia King,** executive editor, events (610) 532-7599

### DEPARTMENT EDITORS

**Craig Stedman,** News editor ..... (508) 820-8120
**Mike Bucken,** assistant News editor ..... (508) 820-8562
**Tommy Peterson,** Technology editor ..... (508) 820-7729
**Kathleen Melymuka,** Management editor ..... (508) 820-8118

### REPORTERS

**Matt Hamblen,** networking; mobile/wireless; network/systems management ..... (508) 820-8567
**Heather Havenstein,** business intelligence; application development; Web services; application server software; health care ..... (919) 386-0381
**Thomas Hoffman,** IT management and investment issues; careers/labor; energy industry ..... (845) 988-9630
**Lucas Mearian,** storage; disaster recovery and business continuity; financial services industry ..... (508) 820-8215
**Linda Rosencrance,** general assignment; transportation and automotive industries ..... (508) 628-4734
**Carol Sliwa,** Windows; Linux; RFID; retail industry ..... (508) 628-4731
**Marc L. Songini,** ERP; supply chain; CRM; databases; food and agribusiness ..... (508) 820-8182
**Patrick Thibodeau,** enterprise systems; Unix; outsourcing and immigration; antitrust issues ..... (202) 333-2448
**Jaikumar Vijayan,** corporate security/privacy issues; manufacturing industry ..... (630) 978-8390
**Todd R. Weiss,** general assignment; open-source community; intellectual property issues; messaging/collaboration ..... (717) 560-5255

### OPINIONS

**Frank Hayes,** senior news columnist ..... (503) 252-0100

### FEATURES

**Ellen Fanning,** special projects editor ..... (508) 820-8204
**Robert L. Mitchell,** senior editor ..... (508) 820-8177
**Mark Hall,** editor at large ..... (503) 391-1158
**Gary H. Anthes,** national correspondent ..... (703) 536-9233
**Julia King,** national correspondent ..... (610) 532-7599

### COMPUTERWORLD.COM

**Martha Connors,** vice president/general manager ..... (508) 620-7700
**Ian Lamont,** online projects editor ..... (508) 820-8187
**Sharon Machlis,** managing editor/online ..... (508) 820-8231
**Ken Mingis,** online news editor ..... (508) 820-8545
**Marian Prokop,** online editor at large ..... (508) 620-7717
**David Ramel,** e-mail newsletter/online editor at large ..... (508) 820-8269
**John R. Brillon,** associate art director ..... (508) 820-8216

**Michael Weiss,** Web producer
**Peter Smith,** Web development manager
**Kevin Gerich, Mark Savery,** Web developers

### RESEARCH

**Mari Keefe,** research manager
**Susale Wilson,** research associate

### COPY DESK

**Michele Lee DeFilippo,** managing editor/production ..... (508) 820-8125
**Bob Rawson,** assistant managing editor/production ..... (508) 271-8015

**Mike Parent, Monica Sambataro,** senior copy editors
**Eugene Demaitre,** copy editor

### GRAPHIC DESIGN

**Stephanie Faucher,** design director ..... (508) 820-8235

**April O'Connor,** associate art director
**Julie Quinn,** senior designer
**Susan Cahill,** graphics coordinator
**John Klossner,** cartoonist

### ADMINISTRATIVE SUPPORT

**Linda Gorgone,** office manager ..... (508) 820-8176

### CONTRIBUTING EDITOR

**Jamie Eckle,** Opinions ..... (817) 596-1878

### CONTRIBUTING COLUMNISTS

**Michael Gartenberg, Dan Gillmor, Paul Glen, Barbara Gomolski, John Halamka, Thornton A. May, David Moschella, Bart Perkins, Virginia Robbins, Bruce A. Stewart**

### CONTRIBUTING WRITERS

**Mary Brandel, Stacy Collett, Russell Kay, Mary K. Pratt, Drew Robb**

### GENERAL INFORMATION

#### TELEPHONE/FAX

**Main phone number . . . . (508) 879-0700**
All editors unless otherwise noted below
**Main fax number . . . . . (508) 875-8931**
**24-hour news tip line. . . (508) 620-7718**

#### E-MAIL

Our Web address is **www.computerworld.com.**
Staff members' e-mail follows this form: **firstname_lastname@computerworld.com.**
For IDG News Service correspondents: **firstname_lastname@idg.com.**

#### LETTERS TO THE EDITOR

Letters to the editor are welcome and should be sent to: **letters@computerworld.com.**
Include your address and telephone number.

#### MAIL ADDRESS

**PO Box 9171, 1 Speen Street, Framingham, Mass. 01701**

#### SUBSCRIPTIONS/BACK ISSUES

Subscription rates: U.S., $99.99/year; Canada, $130/year; Central and South America, $250/year; all others, $295/year

**Phone . . . . . (888) 559-7327**
**E-mail . . . . . cw@omeda.com**
**Back issues. . . . . (888) 559-7327**

#### REPRINTS/PERMISSIONS

**Contact . . . . . Renee Smith**
**Phone . . . . . (717) 399-1900, ext. 172**
**E-mail . . . . . reprints@computerworld.com**
Visit **www.reprintbuyer.com** to obtain quotes and order reprints online.

# COMPANIES IN THIS ISSUE

Page number refers to page on which story begins. Company names can also be searched at **www.computerworld.com**.


ACTIVEYE INC. . . . 12
ALTIRIS INC. . . . 8
AMERICAN ELECTRIC POWER CO. . . . 21
AMERITRADE HOLDING CORP. . . . 31
ATCO I-TEK INC. . . . 6
ATCO LTD. . . . 6
AXON TECHNOLOGIES CORP. . . . 25
BANK OF AMERICA CORP. . . . 31
BEA SYSTEMS INC. . . . 30
BLACK HAT INC. . . . 1
BMC SOFTWARE INC. . . . 7
BONNEVILLE POWER ADMINISTRATION . . . 21
BT RADIANZ . . . 1
BUSINESS SOFTWARE ALLIANCE . . . 45
CARNEGIE MELLON UNIVERSITY . . . 8
CAROLINAS HEALTHCARE SYSTEM . . . 11
CARTER PERTAINE INC. . . . 17
CHICAGO PUBLIC SCHOOLS . . . 13
CHURCH MUTUAL INSURANCE CO. . . . 31
CISCO SYSTEMS INC. . . . 1, 8
CITIGROUP INC. . . . 31
CITY UNIVERSITY OF NEW YORK . . . 13
COMPUTER ASSOCIATES INTERNATIONAL INC. . . . 10, 23, 45
CONSOLIDATED EDISON INC. . . . 21, 24
COUNTERPANE INTERNET SECURITY INC. . . . 1
DEAL ARCHITECT INC. . . . 33
ELECTRIC POWER RESEARCH INSTITUTE . . . 21, 24
EMC CORP . . . 30
EMCOR GROUP INC. . . . 33
ENERGY INSIGHTS . . . 21
ENERNOC INC. . . . 21, 24
ENGENIUM CORP. . . . 8
ENTERPRISE GRID ALLIANCE . . . 8
ENTERPRISE STRATEGY GROUP INC. . . . 31
ENVOYWORLDWIDE INC. . . . 24
EPICOR SOFTWARE CORP. . . . 17
EXCEL ENERGY INC. . . . 31
EXTENDED SYSTEMS INC. . . . 6
F5 NETWORKS INC. . . . 8
FEDERAL DEPOSIT INSURANCE CORP. . . . 1
FEDERAL ENERGY REGULATORY COMMISSION . . . 21
FORRESTER RESEARCH INC. . . . 1, 36, 37, 40
FORTINET INC. . . . 29
FRANCE TELECOM SA . . . 12
FREESCALE SEMICONDUCTOR INC. . . . 25
GAMBRO . . . 17
GAMING PARTNERS INTERNATIONAL CORP. . . . 36
GARTNER INC. . . . 6, 13, 21, 53
GENERAL ELECTRIC CO. . . . 24
GENERAL MOTORS CORP. . . . 12
GOOGLE INC. . . . 6, 10
GOVERNMENT ACCOUNTABILITY OFFICE . . . 10
GRIDWISE ALLIANCE . . . 24
GROUP HEALTH INC. . . . 7
HAWAIIAN ELECTRIC CO. . . . 8
HEWLETT-PACKARD CO. . . . 7, 8, 12, 33, 37
HURWITZ & ASSOCIATES . . . 12
IANYWHERE SOLUTIONS INC. . . . 6
IBM . . . 6, 7, 21, 24, 25, 30, 31
IBM CANADA LTD. . . . 12
IDC . . . 12, 21, 36
INFOSIGHT INC. . . . 1
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC. . . . 11
INTEGRATED DECISION SYSTEMS . . . 17
INTEL CORP. . . . 5, 11, 25
INTELLIGRID CONSORTIUM . . . 24
INTEREX . . . 12
INTERNET SECURITY SYSTEMS INC. . . . 1
IPASS INC. . . . 29
IRON MOUNTAIN INC. . . . 31
IT LEADERSHIP ACADEMY . . . 17
KRAFT FOODS INC. . . . 36
LAWSON SOFTWARE INC. . . . 1, 45
LENOVO GROUP LTD. . . . 6
LINSPIRE INC. . . . 17
LSI LOGIC CORP. . . . 28
M&T BANK CORP. . . . 1
MacDONALD, DETTWILER AND ASSOCIATES LTD. . . . 10
MASSACHUSETTS PORT AUTHORITY . . . 1
MCKINSEY & CO. . . . 36
MERCURY INTERACTIVE CORP. . . . 13
META GROUP INC. . . . 18
MICROSOFT CORP. . . . 5, 10, 12, 17, 30
MICROSTRATEGY INC . . . 12
MITNOT . . . 11
MOBIUS MANAGEMENT SYSTEMS INC. . . . 30
MORGAN STANLEY & CO. . . . 31
NANTERO INC. . . . 25
NASA . . . 30
NEPTEC DESIGN GROUP LTD. . . . 10
NORTEL NETWORKS CORP. . . . 12
NORTHERN ILLINOIS UNIVERSITY . . . 7
OKI ELECTRIC INDUSTRY CO. . . . 12
ORACLE CORP. . . . 1, 29
OVONYX INC. . . . 25
PERIMETER INTERNETWORKING CORP. . . . 1
PEW INTERNET AND AMERICAN LIFE PROJECT . . . 28
PIVX SOLUTIONS INC. . . . 1
PJM INTERCONNECTION LLC . . . 21, 24
PORTUGAL TELECOM SGPS SA. . . . 12
PRICEWATERHOUSECOOPERS . . . 45
PUND-IT RESEARCH . . . 7
QUEST INC. . . . 29
RAMTRON INTERNATIONAL CORP. . . . 25
REARDEN COMMERCE INC. . . . 33
REGIONS FINANCIAL CORP. . . . 33
RENT-A-CENTER INC. . . . 31
TELEVISION MOVIL SA . . . 12
POCKET SOFTWARE INC. . . . 7
RSA SECURITY INC. . . . 29
SANDIA NATIONAL LABORATORIES . . . 10
SAVVYSOFT . . . 17
SCIENCE HORIZONS INC. . . . 17
SEMICO RESEARCH CORP. . . . 25, 26
SHARE . . . 7
SHEER NETWORKS INC. . . . 8
SIEBEL SYSTEMS INC. . . . 10
SIEMENS MEDICAL SOLUTIONS . . . 32
SOPHOS PLC . . . 30
SOURCEFORGE.NET . . . 8
SPIKESOURCE INC. . . . 8
SPLUNK TECHNOLOGY INC. . . . 8
STRATEGY ANALYTICS INC . . . 12
SUN MICROSYSTEMS INC. . . . 6, 7, 8, 12
SYBASE INC. . . . 6
SYMANTEC CORP. . . . 1
SYMBOL TECHNOLOGIES INC. . . . 30
TELEFONICA MOVILES SA . . . 12
TELEGLOBE INTERNATIONAL HOLDINGS LTD. . . . 10
TEXAS INSTRUMENTS INC. . . . 11, 25
TGN SYNC . . . 11
THE 451 GROUP . . . 12
THE YANKEE GROUP . . . 33
TIME WARNER INC. . . . 31
TIVOLI SOFTWARE . . . 6
TURKISH AIRLINES INC. . . . 12
TYCO INTERNATIONAL LTD. . . . 10
U.S. DEPARTMENT OF AGRICULTURE . . . 28
U.S. DEPARTMENT OF DEFENSE . . . 10
U.S. DEPARTMENT OF VETERANS AFFAIRS . . . 46
ULSTER SAVINGS BANK . . . 1
UNIVERSITY OF CALIFORNIA, BERKELEY . . . 17, 28
UNIVERSITY OF WISCONSIN . . . 1
VENTORO . . . 37
VIDESH SANCHAR NIGAM LTD . . . 10
WHO . . . 12
WAL-MART STORES INC. . . . 46
WESTERN CORPORATE FEDERAL CREDIT UNION . . . 1
WI-FI ALLIANCE . . . 11
WIPRO LTD . . . 12
WWISE . . . 11
YAHOO INC. . . . 37
ZETTACORE INC. . . . 25

# Consultant Sees 'Disconnect' On Software Licensing Plans

BY THOMAS HOFFMAN


*In June, PricewaterhouseCoopers published a report on software licensing that was based on interviews with 112 CIOs and chief financial officers at U.S. technology vendors. Among the findings: Half of the companies expect to lose revenue this year as a result of corporate customers improperly reporting the amount of licensed software they use.* **David Marston,** *a PwC partner who leads the consulting firm's U.S. licensing management practice in San Francisco, spoke with* Computerworld *recently about some of the issues raised by the report.*

**Are software vendors moving to new licensing models? And are IT executives clamoring for them?** There's a disconnect there somewhere between what enterprise customers are asking for in terms of flexible licensing models, and models that vendors have tried that didn't catch on. There is a lot of dialogue in the industry about how to address that, but I honestly don't see [vendors] making a mad rush to the door to change licensing models.

**What are users saying? Do they want to see new licensing models introduced into the market?** A lot of licensees we speak to would like to have [a contract] that would provide them [with] more flexibility and ease of compliance. Most of these agreements are structured by CPU or by the number of end users; 99.9% of the CIOs we talk to want to be in compliance, especially [post-Sarbanes-Oxley Act] and in the environment we're living in. But they're resource- and budget-constrained, so it's difficult for them to stay in compliance. They have complex data-center environments, multiple locations and IT managers who aren't close to the terms and conditions.

**CIOs also complain about having to wade through 100-page software contracts. What are the chances of software vendors developing more simplified and standardized contract language?** I can't envision that ever happening. Even within the same software company, contracts vary — and when you get down to negotiating, terms and conditions change.

If you look five years or more down the road and you get to a place where industry consolidation leads to five or 10 major software companies, and you get past the major antitrust issues, maybe you could get vendors to agree to a standard contract form. But you'll still have negotiations galore. Nobody walks into a car dealer and pays the full sticker price. It's the same with software contracts.

**Has the Business Software Alliance become more aggressive about conducting audits of corporate software usage?** I don't know if the BSA has been more or less aggressive on software audits.

But I have seen an increasing trend among enterprise customers toward conducting self-assessments. Whether it's a reaction to a software vendor sending a compliance letter and/or a factor of the Section 404 work related to Sarbanes-Oxley, I'm not sure. But companies are saying that their software asset management controls aren't as robust as they thought they were, so they're opting more towards doing self-assessments. I do see more self-assessments than I did a year ago; that's a fact. **55847**

*Continued from page 1*

## ERP Rollout

February, and officials are now conducting an assessment of the project at the school's flagship campus in Madison, according to Don Mash, executive vice president of the University of Wisconsin system.

The assessment is due to be completed next month, said Mash, who since March has served as chairman of the steering committee that's overseeing the ERP effort. "We don't know where all this will come out," he noted.

The project has been in the works for the past six years. But a risk assessment report that was submitted to the university in February found that too much of that time — three years — was spent on advance planning. The report, written by an outside consultant, cited other problems, including institutional resistance to Lawson's software on the Madison campus, where PeopleSoft financial and student information software is already used.

In addition, the report noted that end users were given technical positions for which they weren't trained and that the project's software testing plan wasn't followed properly and eventually became "completely disregarded."

A large amount of software customization work, which involved 251 programs and eight major bolt-on applications that were being added to Lawson's software, also complicated the project, the report said.

The problems could push the price tag for the Appointment, Payroll and Benefits System (APBS) to between $55 million and $62 million through 2009, according to the report. It said large shortfalls are likely, with a total of only about $34 million expected to be available for the project.

Mash acknowledged last week that the rollout of APBS across the school's 26 campuses proved complicated, and he said that the planning and project management deficiencies and a lack of cooperation between the project team and end users became problematic.

"We aren't as far along as we'd hoped and spent more money than we had originally acknowledged we'd need," Mash said. "What we've spent and the amount of time it's taken, in the big scheme of things, are really not out of the ordinary. But to the general public, after spending $25 million and there's not a product, you've got a problem."

Although the school's mainframe software can still handle basic functions, it's expected to become obsolete within three years, Mash said. University officials want to replace it with a system that's easier to use, more efficient and less costly to operate. But, he added, they're waiting until the assessment is finished before deciding how to proceed.

One option involves swapping out Lawson's applications for PeopleSoft payroll and human resources software, which is now owned by Oracle Corp. However, Mash sees that as unlikely. "Whether or not we'll start with another company isn't known, but it would be a stretch to do that," he said.

The university is Lawson's largest client in the higher education market, said Dan Schmidtke, a strategic account manager at the St. Paul, Minn.-based vendor. He said that the problems with the APBS project stem from issues beyond Lawson's control.

"There are no material issues with Lawson's products or services," Schmidtke said. "We have a good, strong relationship with UW and look forward to their go-live."

Cost overruns for a human resources and payroll system aren't unusual, although outright failure is, said Paul Hamerman, an analyst at Forrester Research Inc. No matter which vendor is involved, he added, there will be significant complexity for a rollout at any academic institution with multiple campuses and a variety of compensation policies and practices. **55860**

### Rescue Mission

**The report pinpointed APBS project shortcomings and offered advice for dealing with them. Here are some examples:**

- **Bad planning.** "Too late to mitigate. Assign oversight responsibilities to third party or ignore."
- **Inadequate testing.** "Extend project timeline to increase testing."
- **Project team burnout.** "Provide incentives for team members with time off, relaxed schedule."
- **Software customizations.** "Too late to change without replacing system."

### FIGHTING SCOPE CREEP

A school district in Tampa, Fla., cautiously readies its Lawson ERP implementation:

**QuickLink 55854**
**www.computerworld.com**

Periodical postage paid at Framingham, Mass., and other mailing offices. Posted under Canadian International Publication agreement #40063800. CANADIAN POSTMASTER: Please return undeliverable copy to PO Box 1632. Windsor, Ontario N9A 7C9. Computerworld (ISSN 0010-4841) is published weekly; except a single combined issue for the last two weeks in December by Computerworld, Inc., 1 Speen Street, Box 9171, Framingham, Mass. 01701-9171. Copyright 2004 by Computerworld Inc All rights reserved. Computerworld can be purchased on microfilm and microfiche through University Microfilms Inc., 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Computerworld is indexed. Back issues, if available, may be purchased from the circulation department. Photocopy rights: permission to photocopy for internal or personal use is granted by Computerworld Inc for libraries and other users registered with the Copyright Clearance Center (CCC), provided that the base fee of $3 per copy of the article, plus 50 cents per page, is paid directly to Copyright Clearance Center, 27 Congress St., Salem, Mass. 01970. Reprints (minimum 100 copies) and permission to reprint may be purchased from Renee Smith, Computerworld Reprints, c/o Reprint Management Services, Greenfield Corporate Center, 1808 Colonial Village Lane, Lancaster, Pa., 17601, (717) 399-1900, Ext. 172. Fax: (717) 399-8900. Web site. www.reprintbuyer.com. E-mail: reprints@computerworld.com. Requests for missing issues will be honored only if received within 60 days of issue date. Subscription rates: $5 per copy; U.S. – $99.99 per year; Canada – $130 per year; Central & So. America $250 per year; Europe – $295 per year; all other countries – $295 per year. Subscriptions call toll-free (888) 559-7327. POSTMASTER: Send Form 3579 (Change of Address) to Computerworld, PO Box 3500, Northbrook, Ill. 60065-3500

BPA ABM RED TAG

FRANK HAYES ■ FRANKLY SPEAKING

# Reinventing EHR

HOW WOULD YOU reinvent part of the software industry? Back in March, I suggested that Medicare — the 800-pound gorilla of health care — could break the logjam in electronic health records by requiring EHR for all doctors who do business with it, much like Wal-Mart is forcing its suppliers to adopt RFID [QuickLink 52932].

This month, Medicare is doing something even more dramatic: It's giving away free EHR software that's customized for private medical practices. In a single stroke, Medicare is setting de facto standards for EHR and making EHR more affordable.

And shaking up the whole EHR software business in the process.

If you've been following the nonprogress of EHR, you already know that individual doctors are the ones who haven't converted patient health records from paper to computerized systems. Hospitals have made the transition over the past decade, spurred by laws such as HIPAA.

But doctors in private practice have dragged their feet, mainly grumbling about cost. And at a typical price tag of $20,000 per doctor for commercial EHR systems, that's no surprise.

Medicare's solution? Take an existing EHR system called VistA, scale it down and make it easier to install, then rename it VistA-Office EHR and give it away to anyone who wants it.

But wait, you ask, where does Medicare get off giving away free software and undercutting EHR vendors? And where did Medicare get this software it's giving away, anyhow?

Hang on — this gets complicated. VistA comes from the Department of Veterans Affairs, which developed it in 1996 and has been running VA health care facilities with it ever since. And VistA is actually just the client/server version of the VA's Decentralized Hospital Computer Program, which the agency has been using since 1985 in 1,300 VA facilities to maintain health records of 5 million veterans. That's what we call "mature."

And because it's software developed with taxpayer dollars, it's in the public domain. Anyone can get a copy of VistA under the Freedom of Information Act and then make as many copies as he likes. It's sort of like open-source software, but without any open-source license.

Wait, there's more. VistA was built on a database engine named MUMPS (now called just M). VistA is free, but M requires a license fee. VistA has also been rewritten as an open-source version called OpenVista, which runs on Linux and uses its own open-source version of MUMPS, so there's no license fee.

Medicare's VistA-Office is also in the public domain, requires M and runs on Windows. That's what doctors can get their hands on starting this month. They'll have to pay license fees for M and a few other modules, but that's only about one-tenth of the cost of a commercial EHR license.

So, what about commercial EHR vendors? They haven't actually lost any sales, since the 70% of medical practices without EHR weren't buying the high-priced spread anyway.

But because VistA-Office is public domain software, commercial vendors can get it free, enhance it, copyright their improvements, then sell it for whatever price the market will bear, creating their own low-end proprietary products. And they can tweak their high-end products to make sure they'll interoperate with VistA-based EHR.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Result: Instead of pricey incompatibility, we could end up just a few years from now with public domain, open-source, and low- and high-end proprietary EHR products that all work together — and a lot more doctors using EHR.

Of course, that's what the Medicare people have in mind — to get doctors to use EHR. They're not trying to reinvent the EHR software business.

But don't be surprised when that's what happens. **55837**

## SHARK TANK

### Running With Scissors

Consultant pilot fish is hard at work fabricating network cables when site manager bursts in. "Our whole network is down!" manager howls. "Is this something you – er . . ." It takes fish a second to realize what manager is seeing: "I'm sitting there with a length of cable in one hand and a pair of scissors in the other," fish says. "Turns out it was a blown breaker. But I'll never forget the look on his face."

### Aha!

My laptop's desktop settings have changed, and my e-mail isn't working, user complains. IT pilot fish checks it out and notices right away that it's not a company laptop. "The user said the laptop was one from home that he bought personally," sighs fish. "He liked it better, so he brought it into work to use."

### Oh, We'll Get In

This lead tech designates "Power-on Monday" – that's the day he reminds users to leave their PCs running overnight so they can be remotely patched and automatically rebooted. "On this particular Power-on Monday, one of the secretaries calls up after he sends out his last reminder," reports a pilot fish on the inside. "She asks, 'Should I leave the door unlocked so IT can get to the PC?' "

### Automation

With HIPAA regulations in full force, this hospital IT pilot fish reminds users that when they print reports containing patient information, those reports can't be left in the printer tray. "They must be either secured under lock and key or shredded," fish says. But one user has a problem: "I don't always have time to pick up my reports from the printer. Is there any way I can set up my PC so I can send my documents directly to the shredder?"

### Rating Amelio

User is outraged with the obscene spam that streams into her work PC, and CIO pilot fish takes immediate action when user suggests it's sexual harassment. "The problem can be ameliorated, which we are trying to do," fish e-mails her. Next day, user responds: "Your Amelio is great – no smut this morning!"

### Still 'No'

Electric utility acquires a new energy management system, and one key piece is the "load dump" module. "This shuts off power to thousands of customers in selected areas in order to avoid blackout scenarios," explains a pilot fish. "The vendor's programmer is on-site and wants to know if he can do a 'real test.' We tell him that would not be a good idea." Programmer's reply: "Then can we just do a small one?"

**SEND SHARKY A SMALL ONE.** E-mail your true tale of IT life to me at sharky@computerworld.com. You'll snag a snazzy Shark shirt if I use it. And check out the daily feed, browse the Sharkives and sign up for Shark Tank home delivery at computerworld.com/sharky.


Samsung displays. Turn business on.
The Samsung 242MP display. Explore more of what's out there.
One look and you'll see how the combination of a computer display, a television and a radio can become your ultimate source of knowledge. And why Samsung is the leading display brand in the world.* So when you're serious about business, turn on a Samsung. And turn yourself on to a whole new way of seeing things. www.samsung.com/monitor
©2005 Samsung Electronics America, Inc. Samsung is a registered trademark of Samsung Electronics Co., Ltd.
Screen images simulated. *Global market share leader based on 2004 iSuppli Corporation Rating.
SAMSUNG


**WebSphere** **CRUSH HIGH COSTS AND INEFFICIENCIES WITH IBM MIDDLEWARE.** Integrate your data, applications and processes with IBM WebSphere Business Integration Server Express. It's designed and priced for your mid-sized business. So you can tackle tasks quickly, sprint new products to market and respond to customers fast. Built on open standards, it's the long-term way to help bolster productivity, shrink costs and maintain a flexible IT infrastructure.

**SEE THE DEMO NOW AT IBM.COM/MIDDLEWARE/SUCCEED**

IBM, the IBM logo and WebSphere are registered trademarks or trademarks of International Business Machines Corporation in the United States and or other countries. © 2005 IBM Corporation. All rights reserved.